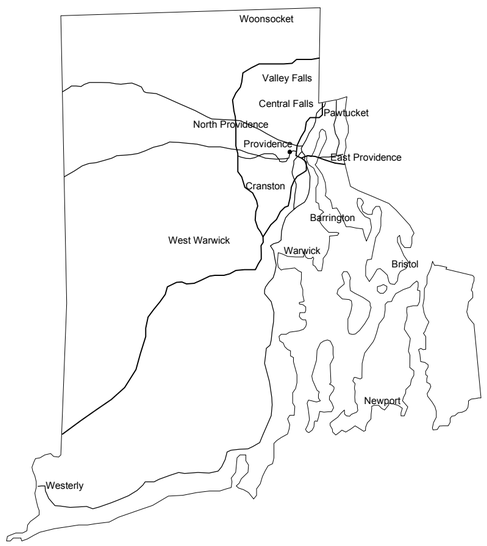
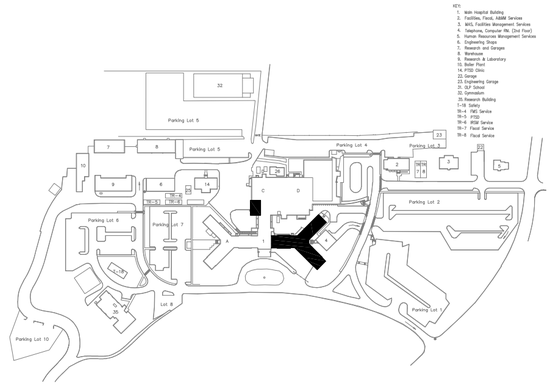
VETERANS AFFAIRS MEDICAL CENTER
BUILDING # 1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
VA PROJECT NO. VA-650-07-115



VICINITY MAP
NOT TO SCALE

INDEX TO DRAWINGS

SHEET NUMBER		DESIGN FILE	DRAWING TITLE
1	G-001	G-001.DWG	COVER SHEET
2	G-002	G-002.DWG	THIRD FLOOR 3C AND FIFTH FLOOR 5B - CONSTRUCTION SEQUENCE PLANS
3	G-003	G-003.DWG	SIXTH FLOOR 6B AND ROOF WING B - CONSTRUCTION SEQUENCE PLANS
4	G-004	G-004.DWG	THIRD FLOOR 3C AND FIFTH FLOOR 5B - LIFE SAFETY PLANS
5	A-001	A-001.DWG	LEGENDS, NOTES AND ABBREVIATIONS
6	A-100	A-100.DWG	THIRD FLOOR 3C - DEMOLITION AND NEW WORK PLANS
7	A-101	A-101.DWG	FIFTH FLOOR 5B - DEMOLITION AND NEW WORK PLANS
8	A-201	A-201.DWG	THIRD AND FIFTH FLOOR - ELEVATIONS
9	A-202	A-202.DWG	FIFTH FLOOR - ELEVATIONS
10	A-501	A-501.DWG	DETAILS AND SCHEDULES
11	S-101	S-101.DWG	CHAPEL DETAILS
12	S-102	S-102.DWG	ROOF STACK SUPPORT DETAILS
13	M-001	M-001.DWG	LEGENDS, GENERAL NOTES AND ABBREVIATIONS
14	MD-101	MD-101.DWG	THIRD FLOOR 3C AND FIFTH FLOOR 5B - DEMOLITION PLANS
15	MD-102	MD-102.DWG	SIXTH FLOOR 6B AND ROOF WING B - DEMOLITION PLANS
16	M-101	M-101.DWG	THIRD FLOOR 3C AND FIFTH FLOOR 5B - MECHANICAL PLANS
17	M-102	M-102.DWG	FIFTH FLOOR 5B - MECHANICAL PIPING PLANS
18	M-103	M-103.DWG	SIXTH FLOOR 6B AND ROOF WING B - MECHANICAL PLANS
19	M-301	M-301.DWG	FIFTH FLOOR 5B - SECTIONS
20	M-501	M-501.DWG	MECHANICAL DETAILS
21	M-502	M-502.DWG	MECHANICAL DETAILS
22	M-503	M-503.DWG	MECHANICAL DETAILS
23	M-601	M-601.DWG	MECHANICAL SCHEDULES
24	P-001	P-001.DWG	LEGENDS, GENERAL NOTES AND ABBREVIATIONS
25	PD-101	PD-101.DWG	FIFTH FLOOR 5B - DEMOLITION PLAN
26	P-101	P-101.DWG	FIFTH FLOOR 5B - PLUMBING PLAN
27	P-102	P-102.DWG	ROOF WING B - PLUMBING PLAN
28	FP-001	FP-001.DWG	LEGENDS, GENERAL NOTES AND ABBREVIATIONS
29	FD-101	FD-101.DWG	FIFTH FLOOR 5B - DEMOLITION PLAN
30	FP-101	FP-101.DWG	FIFTH FLOOR 5B - FIRE PROTECTION PLAN
31	E-001	E-001.DWG	LEGENDS, GENERAL NOTES AND ABBREVIATIONS
32	E-101	E-101.DWG	FIFTH FLOOR 5B - ELECTRICAL PLAN
33	E-102	E-102.DWG	ROOF WING B - ELECTRICAL PLAN
34	E-401	E-401.DWG	SECOND FLOOR 2B, THIRD FLOOR 3C, SIXTH FLOOR 6B AND ROOF WING B - LIGHTING AND ELECTRICAL PLANS



LOCATION PLAN
NOT TO SCALE

GENERAL NOTE

BASE BID SHALL INCLUDE WORK ASSOCIATED WITH WARD 5B, WARD 6B, B-WING ROOF AND ISOLATION SUITES IN WING B IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

ADD ALTERNATE #1 SHALL INCLUDE WORK ASSOCIATED WITH THE CHAPEL IN WING C IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

REFER TO SPECIFICATION SECTION 00 41 00: "BID SCHEDULES" FOR ADDITIONAL INFORMATION.

PREPARED BY:

PRINCIPAL, A/E FIRM **DATE**

US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

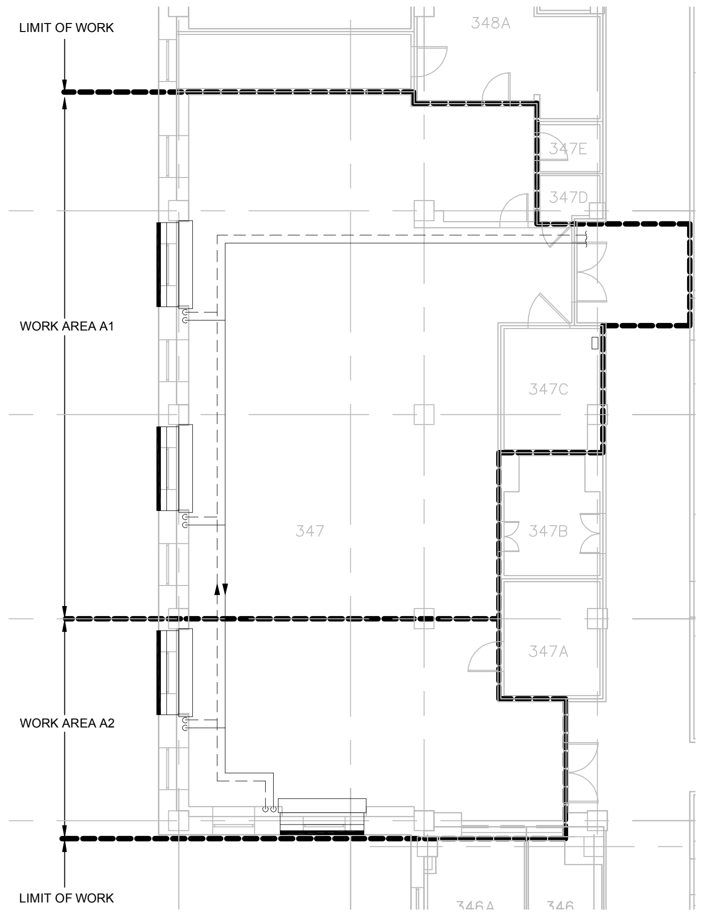
DESIGNED BY: JO
DRAWN BY: JO
SUBMITTED BY: P. CHEN
FILE NAME: G-001.DWG
SIZE: ANSI D
DATE: APRIL 30, 2009
QAD BY: MC
VA PROJECT NO.: VA-650-07-115
DRAWING CODE: -
PLOT SCALE: AS NOTED
PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
COVER SHEET

SHEET IDENTIFICATION
G-001
SHEET 1 OF 34



CONSTRUCTION SEQUENCE PLAN - CHAPEL 3C

SCALE: 1/8"=1'-0"

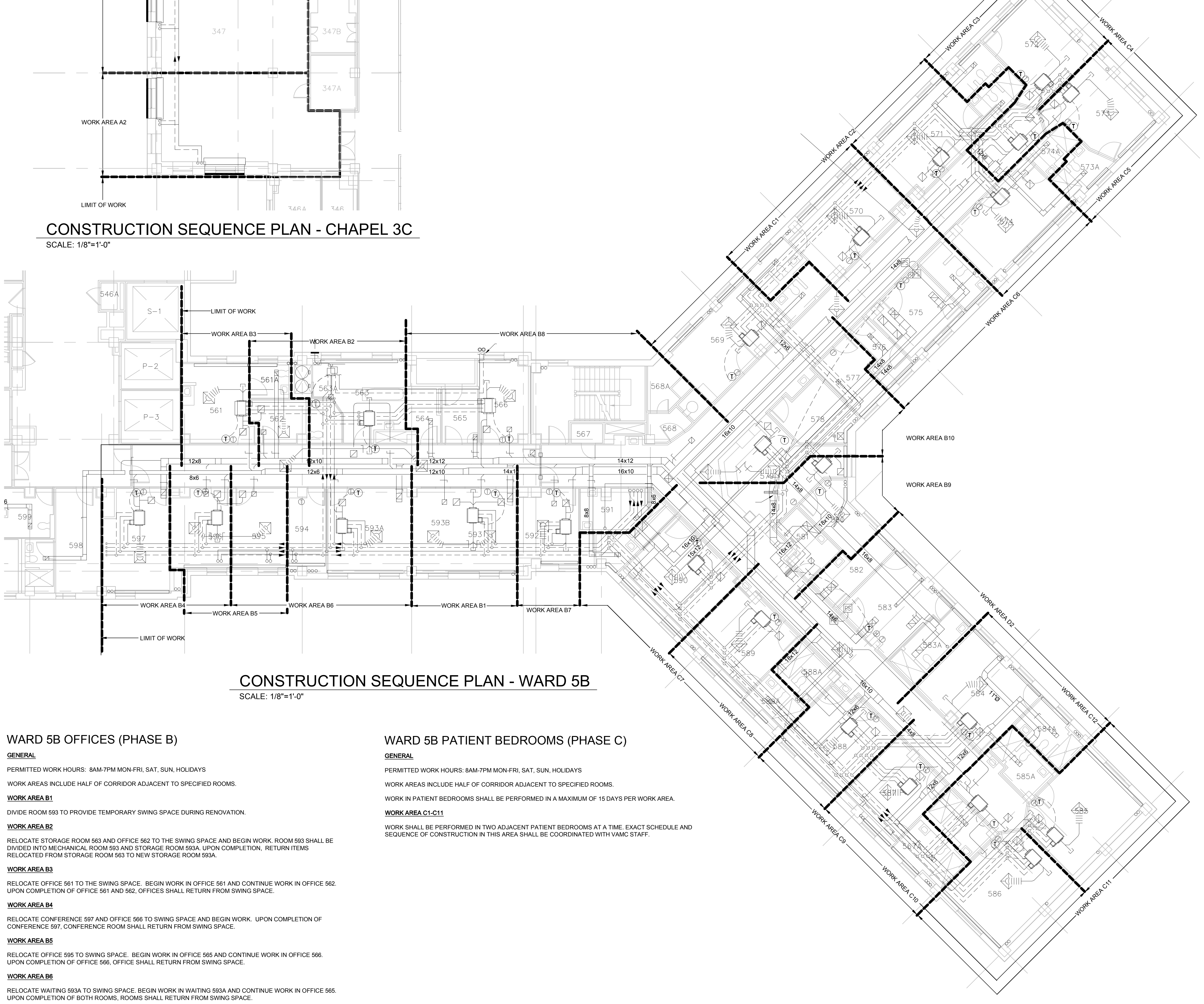
CHAPEL (PHASE A)

GENERAL

ALLOWED WORK HOURS: 8AM-7PM MONDAY-FRIDAY

WORK AREA A1-A2

WORK IN THESE AREAS SHALL BE COORDINATED WITH VAMC STAFF.



CONSTRUCTION SEQUENCE PLAN - WARD 5B

SCALE: 1/8"=1'-0"

WARD 5B OFFICES (PHASE B)

GENERAL

PERMITTED WORK HOURS: 8AM-7PM MON-FRI, SAT, SUN, HOLIDAYS

WORK AREAS INCLUDE HALF OF CORRIDOR ADJACENT TO SPECIFIED ROOMS.

WORK AREA B1

DIVIDE ROOM 593 TO PROVIDE TEMPORARY SWING SPACE DURING RENOVATION.

WORK AREA B2

RELOCATE STORAGE ROOM 563 AND OFFICE 562 TO THE SWING SPACE AND BEGIN WORK. ROOM 593 SHALL BE DIVIDED INTO MECHANICAL ROOM 593 AND STORAGE ROOM 593A. UPON COMPLETION, RETURN ITEMS RELOCATED FROM STORAGE ROOM 563 TO NEW STORAGE ROOM 593A.

WORK AREA B3

RELOCATE OFFICE 561 TO THE SWING SPACE. BEGIN WORK IN OFFICE 561 AND CONTINUE WORK IN OFFICE 562. UPON COMPLETION OF OFFICE 561 AND 562, OFFICES SHALL RETURN FROM SWING SPACE.

WORK AREA B4

RELOCATE CONFERENCE 597 AND OFFICE 566 TO SWING SPACE AND BEGIN WORK. UPON COMPLETION OF CONFERENCE 597, CONFERENCE ROOM SHALL RETURN FROM SWING SPACE.

WORK AREA B5

RELOCATE OFFICE 595 TO SWING SPACE. BEGIN WORK IN OFFICE 565 AND CONTINUE WORK IN OFFICE 566. UPON COMPLETION OF OFFICE 566, OFFICE SHALL RETURN FROM SWING SPACE.

WORK AREA B6

RELOCATE WAITING 593A TO SWING SPACE. BEGIN WORK IN WAITING 593A AND CONTINUE WORK IN OFFICE 565. UPON COMPLETION OF BOTH ROOMS, ROOMS SHALL RETURN FROM SWING SPACE.

WORK AREA B7

RELOCATE OFFICE 592 TO SWING SPACE AND BEGIN WORK. WORK IN SOILED UTILITY 591 SHALL BE COORDINATED WITH VAMC STAFF. UPON COMPLETION OF BOTH ROOMS, OFFICE 592 SHALL RETURN FROM SWING SPACE.

WORK AREA B8

RELOCATE OFFICE 566, CLOSET 565 AND STORAGE 564 TO SWING SPACE AND BEGIN WORK. UPON COMPLETION, ROOMS SHALL RETURN FROM SWING SPACE. CORE DRILLING WILL BE REQUIRED IN THIS WORK AREA. REFER TO CORE DRILLING REQUIREMENTS IN CONSTRUCTION SEQUENCE GENERAL NOTES

WORK AREA B9

RELOCATE MEDICAL CLOSET 580 TO ROOM 592 AND BEGIN WORK. COORDINATE WORK IN NURSE STATION AND KITCHEN WITH VAMC STAFF.

WORK AREA B10

RELOCATE CLOSET 577 AND 578 TO SWING SPACE AND BEGIN WORK. COORDINATE WORK IN NURSE STATION WITH VAMC STAFF. UPON COMPLETION, CLOSET 577 AND 578 SHALL RETURN FROM SWING SPACE.

WARD 5B PATIENT BEDROOMS (PHASE C)

GENERAL

PERMITTED WORK HOURS: 8AM-7PM MON-FRI, SAT, SUN, HOLIDAYS

WORK AREAS INCLUDE HALF OF CORRIDOR ADJACENT TO SPECIFIED ROOMS.

WORK IN PATIENT BEDROOMS SHALL BE PERFORMED IN A MAXIMUM OF 15 DAYS PER WORK AREA.

WORK AREA C1-C11

WORK SHALL BE PERFORMED IN TWO ADJACENT PATIENT BEDROOMS AT A TIME. EXACT SCHEDULE AND SEQUENCE OF CONSTRUCTION IN THIS AREA SHALL BE COORDINATED WITH VAMC STAFF.

CONSTRUCTION SEQUENCE

INTRODUCTION

DUE TO THE CRITICAL NATURE OF THIS HOSPITAL FACILITY, THE FOLLOWING CONSTRUCTION STAGING REQUIREMENTS HAVE BEEN DEVELOPED TO MINIMIZE DISRUPTION TO THE BUILDING OCCUPANTS DURING CONSTRUCTION. THE CONSTRUCTION SEQUENCE HAS BEEN BROKEN DOWN INTO 5 PHASES (A-E), WHICH MAY OCCUR SIMULTANEOUSLY, AND WORK AREAS WITHIN EACH PHASE, WHICH SPECIFY A SPECIFIC ORDER IN WHICH THE WORK SHALL BE COMPLETED. THE CONSTRUCTION SEQUENCE DRAWINGS DEPICT ONE FEASIBLE OPTION BASED UPON THE BEST AVAILABLE KNOWLEDGE OF EXISTING STRUCTURAL, ARCHITECTURAL AND MEP CONDITIONS. REVISIONS MAY BE MADE WITH THE APPROVAL OF THE ENGINEER AND VAMC STAFF.

GENERAL

GENERAL CONTRACTOR SHALL SCHEDULE WITH MECHANICAL, ELECTRICAL AND OTHER TRADE CONTRACTORS TO MINIMIZE THE DOWN TIME ASSOCIATED WITH THE PROPOSED WORK. REFER TO ADDITIONAL REQUIREMENTS SET FORTH BY THE VAMC. PROPER NOTIFICATION SHALL BE GIVEN TO THE HOSPITAL STAFF AND ANY OTHER APPLICABLE PARTIES WHEN CONTRACTOR OCCUPANCY MAY OCCUR. COSTS ASSOCIATED WITH DELAYS AND SHUTDOWNS DUE TO INSUFFICIENT COMMUNICATION OR UNNECESSARY DOWN TIME WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR(S). BELOW IS A PROPOSED PHASING DESCRIPTION, GENERAL IN NATURE, IDENTIFYING THE SCOPE OF WORK, AND SHALL BE USED AS A REFERENCE ONLY.

THE INTENT OF THE SCOPE OF WORK ASSOCIATED WITH THE PROPOSED RENOVATIONS, AS DESCRIBED IN THE CONTRACT DOCUMENTS AND SPECIFICATIONS, IS SUMMARIZED BELOW AND SHALL APPLY TO ALL TRADE DRAWINGS AND SPECIFICATIONS WITHIN THE CONSTRUCTION SET. THE STATED PHASING DESCRIPTIONS IDENTIFY ONLY THE INTENT OF THE SCOPE OF WORK TO BE PERFORMED AND SHALL NOT BE MISCONSTRUED AS A DIRECTIVE TO EXECUTE THE PROPOSED MODIFICATIONS. IT IS THE REQUIREMENT OF THIS PROJECT, THAT A DETAILED CONSTRUCTION SCHEDULE BE SUBMITTED FOR THE OWNER'S REVIEW PRIOR TO COMMENCEMENT OF ANY WORK. GENERAL CONTRACTOR SHALL WORK CLOSELY WITH VAMC STAFF TO FACILITATE RELOCATION OF AFFECTED OCCUPANTS AND NECESSARY FURNITURE. THE CONSTRUCTION WORK IN EACH SPACE SHALL BE EXECUTED IN SUCH A MANNER THAT MINIMIZES DISRUPTION TO THE BUILDING OCCUPANTS.

DAILY CONSTRUCTION HOURS FOR EACH SPECIFIC WORK AREA WILL BE DEFINED PRIOR TO COMMENCEMENT OF WORK. SIGNIFICANT "OFF-HOUR" OR WEEKEND WORK WILL BE REQUIRED TO LIMIT DISRUPTIONS OF DAILY OPERATIONS TO THE MEDICAL CENTER AND MAINTAIN THE DEFINED CONSTRUCTION SCHEDULE.

SCOPE OF WORK SHALL INCLUDE, BUT NOT LIMITED TO, NEW MECHANICAL ROOM,NEW STORAGE ROOM, NEW OFFICE SPACE, NEW FAN-COIL UNITS, STEAM/HOT WATER HEAT EXCHANGER(S), HOT WATER PUMPS, ROOF-MOUNTED CHILLER, HOT AND CHILLED WATER PIPING, MODIFICATIONS TO THE VENTILATION SYSTEM, MAKE-UP AIR UNITS, UNIT VENTILATORS, ELECTRICAL WIRING AND NEW AUTOMATIC TEMPERATURE CONTROLS TO SUPPORT THE NEW SYSTEM REQUIREMENTS. DEMOLITION OF THE EXISTING FANS, UNIT VENTILATORS, AC UNITS AND MAKE-UP AIR UNITS.

ALL NEW SERVICES SHALL BE PROVIDED TO THE EXTENT POSSIBLE PRIOR TO DEMOLITION WORK TO MINIMIZE "DOWNTIME" TO THE MEDICAL CENTER.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REINSTALLING CEILING TILES, CURTAINS AND TRACKS IN ALL ROOMS, IF SO EQUIPPED, WHERE CONSTRUCTION WORK IS PERFORMED.

ALL FURNITURE AND EQUIPMENT MUST BE REMOVED BEFORE COMMENCING WORK IN A SPECIFIC ROOM; CONTRACTOR TO MOVE FURNITURE TO A LOCATION WITHIN THE HOSPITAL AS DESIGNATED BY THE VAMC.

RESTRICT ACTIVITIES THAT CREATE EXCESSIVE NOISE LEVELS (CUTTING, POWER FASTENING, USE OF POWER TOOLS AND ACTIVITIES THAT GENERATE SIMILAR NOISE LEVELS) TO THE HOURS DESIGNATED BY THE HOSPITAL.

GENERAL CONTRACTOR SHALL COORDINATE ALL WORK WITH THE INFECTION CONTROL NURSE. GENERAL CONTRACTOR SHALL COORDINATE WORK ACTIVITY SUCH THAT EACH PHASE OF WORK IN A SPECIFIC LOCATION IS COMPLETED PRIOR TO PROCEEDING INTO THE NEXT PHASE OR AREA OF WORK.

WHERE TRADE SERVICES CROSS CORRIDORS, WORK IN THE CORRIDORS MUST BE STARTED AND COMPLETED IN A SINGLE CONTINUOUS ACTIVITY SO THAT NO CORRIDOR WORK IS LEFT EXPOSED OR UNCOVERED OR OTHERWISE CREATE OBSTRUCTIONS OR HAZARDS TO HOSPITAL ACTIVITY DURING THE HOURS DESIGNATED BY THE HOSPITAL.

DUST BARRIERS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR EACH TRADE CONTRACTOR PROVIDING MEANS OF TEMPORARY PARTITIONS, DUST CONTROL AND NECESSARY TEMPORARY SERVICES TO THE OWNER'S SATISFACTION FOR ALL WORK AREAS AT ALL TIMES DURING CONSTRUCTION. DUST BARRIERS MUST INCLUDE A VESTIBULE. DUST BARRIERS MUST BE CONSTRUCTED TO UNDERSIDE OF FLOOR ABOVE IF EXISTING WALLS THAT ARE INTENDED TO BE DUST BARRIERS DO NOT EXTEND TO UNDERSIDE OF FLOOR ABOVE. SEAL ALL DOORS THAT MAY FORM PART OF A DUST BARRIER. ALL WALL AND CEILING MOUNTED EQUIPMENT, NOT REMOVED PRIOR TO CONSTRUCTION, MUST BE COVERED AND SEALED. EXCEPTION: ALL FIRE ALARM DEVICES SHALL NOT BE CONCEALED NOR OBSTRUCTED UNDER ANY CIRCUMSTANCES.

CORE DRILLING

ALL CORE DRILLING MUST BE APPROVED BY VAMC STAFF

CONTRACTOR SHALL PROVIDE VAMC STAFF INFORMATION ON CORE DRILLING LOCATION AND PROPOSED TIME CORE DRILLING WILL TAKE PLACE

A MAGNETIC IMAGE OF FLOOR SLAB THAT CLEARLY SHOWS NO EMBEDDED CONDUIT OR STRUCTURAL REINFORCEMENT IS PRESENT AT THE LOCATION OF THE CORE DRILL SHALL BE FURNISHED BEFORE COMMENCING ANY CORE DRILLING

EXISTING DUCTWORK TO BE REUSED

ALL EXISTING DUCTWORK SHOWN TO BE REUSED SHALL BE CLEANED PER SPECIFICATIONS. CONTRACTOR SHALL IDENTIFY AND REPLACE NON-FUNCTIONING VOLUME DAMPERS, FIRE DAMPERS AND SMOKE DAMPERS IN EXISTING DUCTWORK THAT IS SHOWN TO BE REUSED. CONTRACTOR SHALL COORDINATE DUCTWORK CLEANING AND DAMPER REPLACEMENT WITH VAMC STAFF.

CONSTRUCTION CONTRACT COORDINATION

CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE WORK OF ALL OTHER CONTRACTORS WORKING IN THE DESIGNATED CONSTRUCTION AREAS. THIS WILL INCLUDE THE FOLLOWING WORK:

1. CEILING LIFT CONSTRUCTION CONTRACTOR WILL BE INSTALLING LIFTS IN ROOMS 569, 572, 573, 574, 575, 583, 589 AND 590
2. ICU AND ENDOSCOPY HVAC UPGRADE CONSTRUCTION CONTRACTOR WILL BE INSTALLING NEW FACILITIES ON THE FOURTH FLOOR

FREIGHT ELEVATOR AND LOADING DOCK

THE FREIGHT ELEVATOR AND LOADING DOCK MAY BE USED BY THE CONTRACTOR WITH THE FOLLOWING RESTRICTIONS:

1.VAMC PERSONNEL SHALL HAVE PRIORITY USE
2.THE CONTRACTOR SHALL CLEAN ALL DEBRIS AND RETURN ELEVATOR AND LOADING DOCK TO ORIGINAL STATE AFTER EACH USE

CONTRACTOR LAYDOWN AREA

THE CONTRACTOR SHALL USE A PORTION OF LOT10 (SEE G-003) AS DESIGNATED BY THE VAMC STAFF AS A LAYDOWN AND STAGING AREA. THE ROOF SHALL NOT BE USED AS A LAYDOWN OR STAGING AREA

RESTROOM FACILITIES

THE CONTRACTOR SHALL PROVIDE RESTROOM FACILITIES FOR ALL PERSONNEL WORKING ON SITE. THE CONTRACTOR SHALL NOT USE ANY RESTROOM FACILITIES WITHIN THE VAMC

REMOVAL OF DEMOLISHED MATERIAL

THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL MATERIAL DUE TO THEIR ACTIVITIES IN ACCORDANCE WITH THE VAMC STANDARDS AND WITH THE APPROVAL OF THE NURSE MANAGER. ALL MATERIAL NOT DESIGNATED TO REMAIN SHALL BE FULLY REMOVED AND LOCALLY DISPOSED BY THE CONTRACTOR

UTILITY SHUTDOWNS

CONTRACTOR SHALL PROVIDE A SCHEDULE OF CONSTRUCTION ACTIVITY PRIOR TO THE START OF ALL WORK AND PHASED WORK. CONTRACTOR SHALL NOTIFY THE VAMC A MINIMUM OF 72 HOURS IN ADVANCE OF ALL UTILITY SHUTDOWNS AND ONE WEEK IN ADVANCE OF ALL ROOM SHUTDOWNS

WORK AREA VENTILATION

CONTRACTOR SHALL PROVIDE A WINDOW MOUNTED, PORTABLE FAN CAPABLE OF MAINTAINING ALL WORK AREAS UNDER NEGATIVE PRESSURE WITH RESPECT TO ALL ADJOINING, OCCUPIED SPACES AT ALL TIMES DURING CONSTRUCTION.

REMOVAL OF WINDOW AIR CONDITIONING UNITS

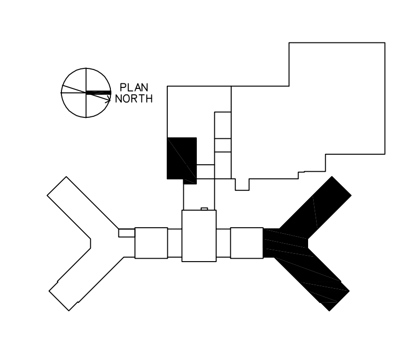
CONTRACTOR SHALL REMOVE WINDOW MOUNTED AIR CONDITIONING UNITS AND REPLACE THE WINDOW GLAZING AFTER THE PROVIDED HEATING VENTILATING AND AIR CONDITIONING SYSTEMS HAVE BEEN ACCEPTED BY THE VAMC.

TESTING, ADJUSTING AND BALANCING

CONTRACTOR SHALL COORDINATE TESTING, ADJUSTING AND BALANCING WITH VAMC STAFF

EXISTING STEAM BASEBOARD

CONTRACTOR SHALL LOWER TEMPERATURE ON EXISTING STEAM BASEBOARD THERMOSTAT TO 55°F AFTER THE PROVIDED HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS HAVE BEEN ACCEPTED BY THE VAMC.



US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

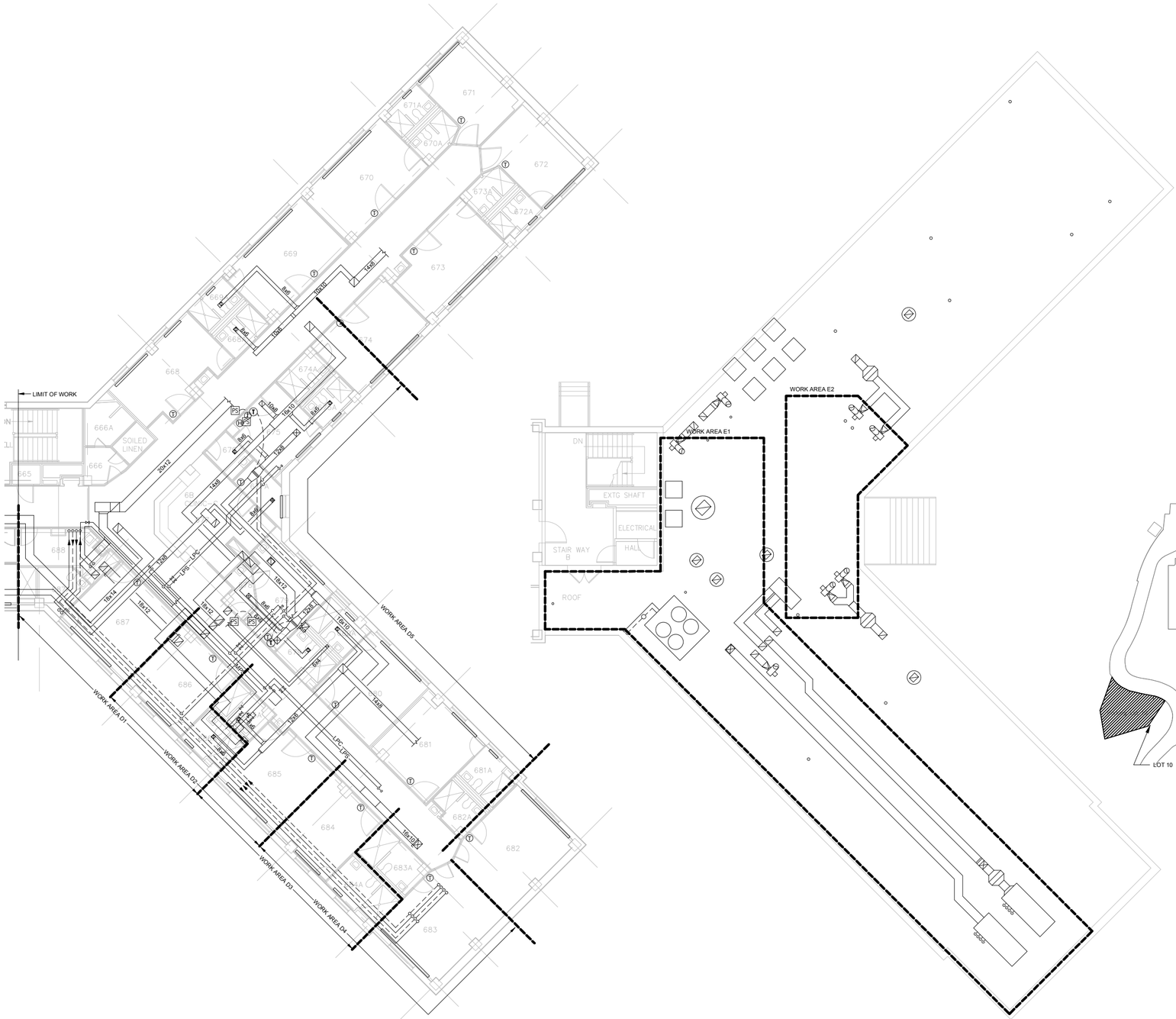
DESIGNED BY: EHW		DATE: APRIL 30, 2009
DWN BY: EHW	CKD BY: JO	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: G-002.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

THIRD FLOOR 3C AND FIFTH FLOOR 5B - CONSTRUCTION SEQUENCE PLANS

SHEET IDENTIFICATION

G-002

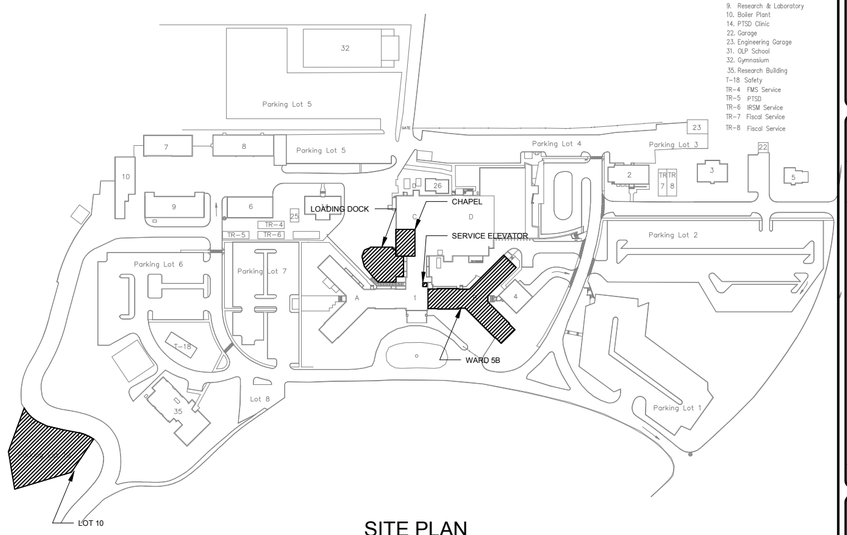


CONSTRUCTION SEQUENCE PLAN - WARD 6B

SCALE: 1/8"=1'-0"

CONSTRUCTION SEQUENCE PLAN - ROOF WING B

SCALE: 1/8"=1'-0"



9. Research & Laboratory
10. Boiler Plant
14. PTSD Clinic
22. Garage
23. Engineering Garage
31. QLP School
32. Gymnasium
35. Research Building
T-18 Safety
TR-4 FMS Service
TR-5 PTSD
TR-6 IRSM Service
TR-7 Fiscal Service
TR-8 Fiscal Service

SITE PLAN

NTS

WARD 6B (PHASE D)

GENERAL

PERMITTED WORK HOURS: 8AM-7PM SATURDAY, SUNDAY AND HOLIDAYS ONLY

WORK AREAS INCLUDE HALF OF CORRIDOR ADJACENT TO SPECIFIED ROOMS.

WORK AREA D1-D4

CORE DRILLING MAY BE REQUIRED IN THESE WORK AREAS. REFER TO CORE DRILLING REQUIREMENTS IN GENERAL CONSTRUCTION SEQUENCE NOTES. WORK IN THESE AREAS SHALL BE COORDINATED WITH VAMC STAFF.

WORK AREA D5

EXISTING DUCT TO BE REUSED SHALL BE CLEANED.
INSPECT EXISTING AND REPLACE ALL NON-FUNCTIONING VOLUME DAMPERS, FIRE DAMPERS AND SMOKE DAMPERS.

ROOF (PHASE E)

GENERAL

ALLOWED WORK HOURS: 8AM-7PM MONDAY-SUNDAY

WORK AREA E1

COORDINATE WORK IN THIS AREA WITH THE VAMC STAFF

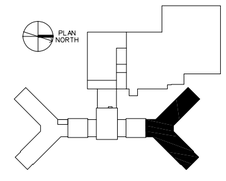
WORK AREA E2

REPLACE SECONDARY EXHAUST FAN WHILE THE PRIMARY EXHAUST FAN IS OPERATING SO THAT NEGATIVE PRESSURE IS MAINTAINED IN THE ISOLATION SUITES AT ALL TIMES DURING CONSTRUCTION. WHEN NEW SECONDARY FAN IS FUNCTIONAL, REPLACE THE PRIMARY FAN WHILE OPERATING THE SECONDARY FAN. (TYPICAL OF BOTH PRIMARY/SECONDARY FAN SETS)

SITE PLAN NOTES:

GENERAL

LOT 10 SHALL BE USED FOR CONTRACTOR STAGING AREA



US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

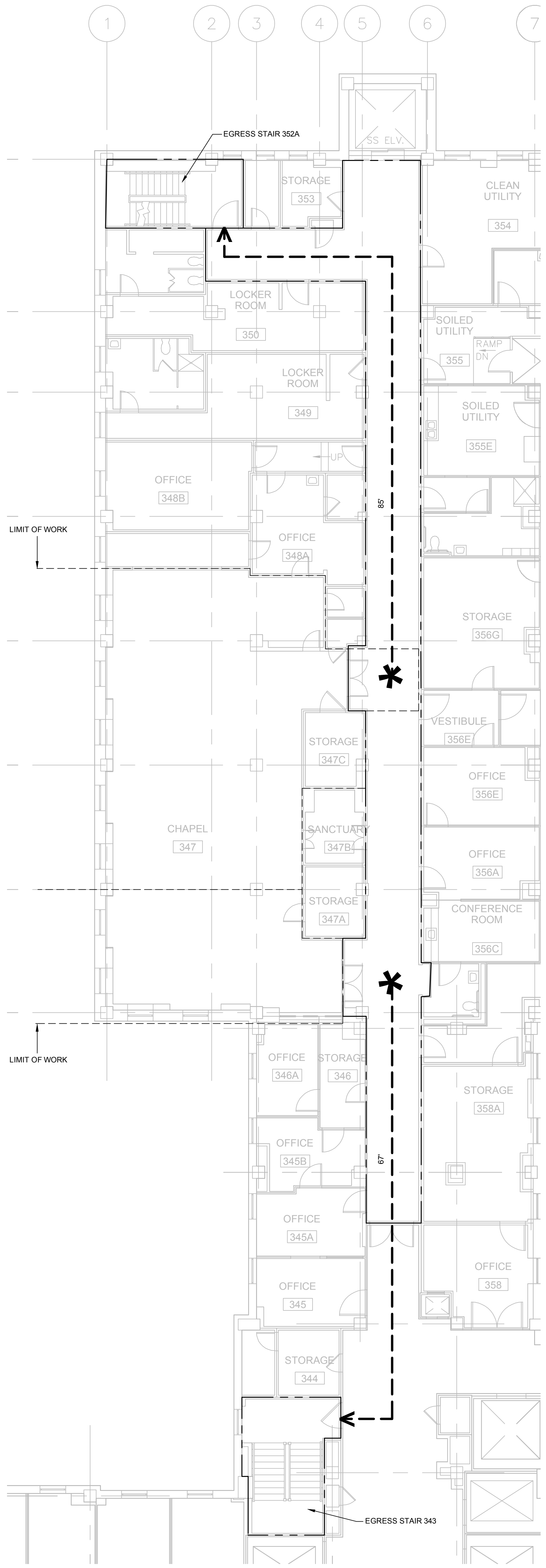
DESIGNED BY: EHW
DRAWN BY: EHW
SUBMITTED BY: P. CHEN
FILE NAME: G-003.DWG
SIZE: ARCH E
DATE: APRIL 30, 2009
SOLICITATION NO.:
CHKD BY: JO
VA PROJECT NO: VA-689-07-115
DRAWING CODE:
PLOT SCALE: 1/8"=1'-0"
PLOT DATE: APRIL 2, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

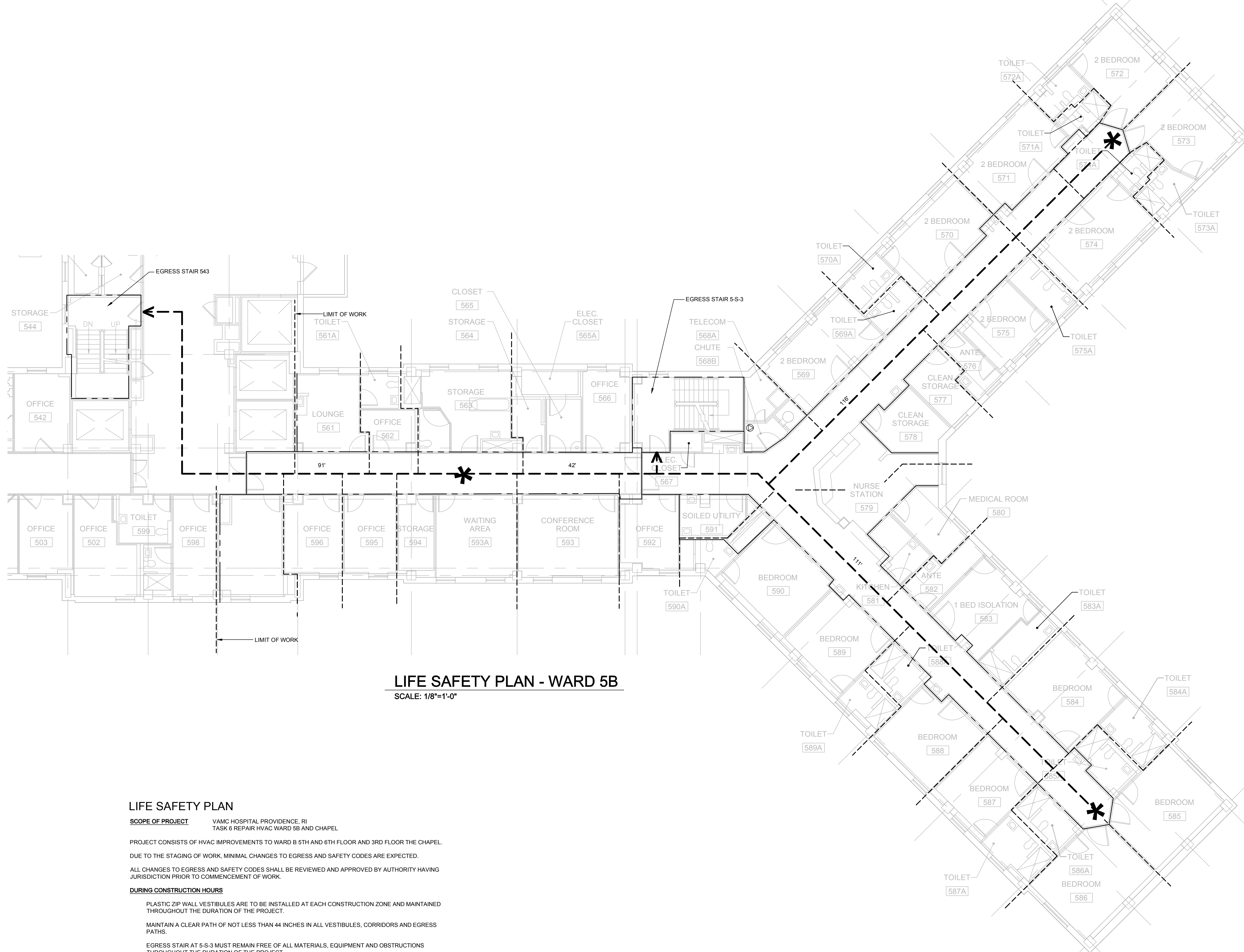
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC WARD 6B AND CHAPEL
PROVIDENCE, RHODE ISLAND
SIXTH FLOOR 6B AND ROOF
WING B - CONSTRUCTION
SEQUENCE PLANS

SHEET IDENTIFICATION
G-003
SHEET 3 OF 34



LIFE SAFETY PLAN - CHAPEL 3C

SCALE: 1/8"=1'-0"



LIFE SAFETY PLAN - WARD 5B

SCALE: 1/8"=1'-0"

LIFE SAFETY PLAN

SCOPE OF PROJECT VAMC HOSPITAL PROVIDENCE, RI
TASK 6 REPAIR HVAC WARD 5B AND CHAPEL

PROJECT CONSISTS OF HVAC IMPROVEMENTS TO WARD B 5TH AND 6TH FLOOR AND 3RD FLOOR THE CHAPEL.

DUE TO THE STAGING OF WORK, MINIMAL CHANGES TO EGRESS AND SAFETY CODES ARE EXPECTED.

ALL CHANGES TO EGRESS AND SAFETY CODES SHALL BE REVIEWED AND APPROVED BY AUTHORITY HAVING JURISDICTION PRIOR TO COMMENCEMENT OF WORK.

DURING CONSTRUCTION HOURS

PLASTIC ZIP WALL VESTIBULES ARE TO BE INSTALLED AT EACH CONSTRUCTION ZONE AND MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

MAINTAIN A CLEAR PATH OF NOT LESS THAN 44 INCHES IN ALL VESTIBULES, CORRIDORS AND EGRESS PATHS.

EGRESS STAIR AT 5-S-3 MUST REMAIN FREE OF ALL MATERIALS, EQUIPMENT AND OBSTRUCTIONS THROUGHOUT THE DURATION OF THE PROJECT.

MAINTAIN A CLEAR DOOR WIDTH OF NOT LESS THAN 32 INCHES AT ALL EGRESS STAIRS.

SPRINKLER HEADS SHALL BE PROTECTED IN WORK AREAS BEFORE STARTING ANY WORK AND REMOVED AT END OF EACH WORK DAY.

CORRIDOR DOORS LOCATED OUTSIDE OF ROOMS 592 AND 597 MUST REMAIN CLEAR AND OPERATIONAL AT ALL TIMES.

A CLEAR PATH TO ALL FIRE ALARM PULL STATIONS MUST BE MAINTAINED.

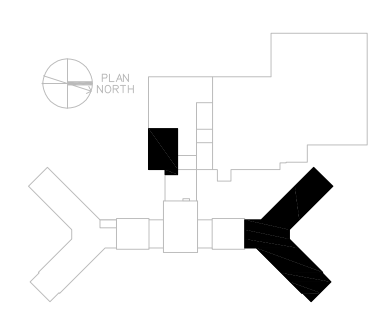
ALL FIRE ALARM DEVICES MUST REMAIN OPERATIONAL THROUGHOUT ENTIRE CONSTRUCTION CONTRACT.

ALL FIRE SPRINKLER AND FIRE ALARM MODIFICATIONS AND SHUT DOWNS SHALL BE COORDINATED WITH VAMC

ALL CUTTING AND WELDING OPERATIONS SHALL BE IN ACCORDANCE WITH NFPA 51B

LIFE SAFETY LEGEND

SYMBOL	DESCRIPTION
<−−✱	EGRESS PATH OF TRAVEL
—— – – ——	ONE HOUR RATED PARTITION
– – – – – – – –	CONSTRUCTION SEQUENCE PHASING LINE
⊳ (circled)	FIRE SPRINKLER RISER



US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: EHW		DATE: APRIL 30, 2009
DWN BY: EHW	CKD BY: JO	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: G-004.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

THIRD FLOOR 3C AND FIFTH
FLOOR 5B - LIFE SAFETY PLANS

SHEET IDENTIFICATION

G-004

SHEET 4 OF 34

ABBREVIATIONS

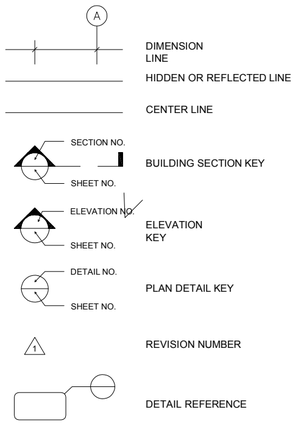
ACOUST	ACOUSTICAL
ADMIN	ADMINISTRATION
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
@	AT
&	AND
℄	CENTER LINE
CL	CLOSET
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CORR	CORRIDOR
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DWG	DRAWING
EOS	EDGE OF SLAB
EQ	EQUAL
EXIST	EXISTING
FD	FRAME DIMENSION
FD	FLOOR DRAIN
FF	FINISHED FLOOR
FIN	FINISH
FLR	FLOOR
FT	FEET
FVC	FIRE VALVE CABINET
FX	FIRE EXTINGUISHER
FXC	FIRE EXTINGUISHER CABINET
GA	GAUGE
GALV	GALVANIZED
GB	GYPSUM BOARD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT
INSUL	INSULATION
IN	INCH
JT	JOINT
MAX	MAXIMUM
MECH	MECHANICAL
MEP	MECHANICAL, ELECTRICAL, AND
	PLUMBING
MIN	MINIMUM
MO	MASONRY OPENING
MS	METAL STUD
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
OPNG	OPENING
P LAM	PLASTIC LAMINATE
R	RISER
RD	RESILIENT CHANNELS
RD	ROOF DRAIN
REFRIG	REFRIGERATOR
REINF	REINFORCEMENT
REQ	REQUIRED
RM	ROOM
RO	ROUGH OPENING
RTU	ROOFTOP UNIT
RCP	REFLECTED CEILING PLAN
SF	SQUARE FOOT
SPEC	SPECIFICATION
SS	STAINLESS STEEL
STC	SOUND TRANSMISSION
	COEFFICIENT
STOR	STORAGE
STRUC	STRUCTURAL
SWR	SHOWER
T	TREAD
TS	TUBE STEEL
UC	UNDERCUT
UON	UNLESS OTHERWISE NOTED

VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W/	WITH
WD	WINDOW DIMENSION
WO	WINDOW OPENING
X	EXISTING

GENERAL NOTES:

1. ALL WORK SHALL BE OF HIGH QUALITY AND PRODUCED IN A NEAT, WORKMANLIKE MANNER. ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE BEST ACCEPTED TRADE PRACTICES.
2. THE CONTRACT OR SHALL NOTIFY VAMC / ACOE OF ANY AND ALL DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE TO NOTIFY THE VAMC / ACOE WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO PERFORM THE WORK AS INTENDED BY THE CONTRACT DOCUMENTS. THE CONTRACTOR IS TO CORRECT ANY AND ALL WORK DEEMED DEFICIENT BY VAMC / ACOE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL CHECK AND VERIFY ALL DIMENSIONS AND JOB CONDITIONS IN THE FIELD. THE CONTRACTOR SHALL NOTIFY THE VAMC / ACOE PROJECT MANAGER OF ANY DISCREPANCIES PRIOR TO SUBMITTING SHOP DRAWINGS AND PLACING ORDERS DURING THE COURSE OF THE CONTRACT.
4. THE CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING ITEMS TO REMAIN. THE CONTRACTOR WILL REPAIR AND/OR REPLACE ANY ITEM DAMAGED DURING THE COURSE OF THE WORK TO THE SATISFACTION AND APPROVAL OF THE AUTHORITY WITHOUT ANY ADDITIONAL COST TO THE VAMC / ACOE.
5. ANY DAMAGE TO FINISHES OR EQUIPMENT CAUSED BY THE CONTRACT WORK SHALL BE REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO VAMC / ACOE.
6. ALL WORK TO BE IN COMPLIANCE WITH THE RHODE ISLAND STATE BUILDING CODE. ANY DISCREPANCY SHALL BE CALLED TO THE ATTENTION OF THE VAMC / ACOE PROJECT MANAGER.
7. THE CONTRACTOR SHALL INSTALL AND/OR CONCEAL ALL RECESSED ITEMS SUCH AS CONDUIT, PIPING, WIRES, OUTLET BOXES, ETC. INCLUDING PROVIDING ANY OPENINGS REQUIRED IN THE MASONRY WALLS.
8. THE CONTRACTOR SHALL EXAMINE DRAWINGS OF ALL TRADES TO VERIFY AND COORDINATE THE LOCATION OF THE DISPLAYS, EQUIPMENT, ROUGHING, ETC.
9. PATCH ALL DAMAGED SURFACES WITH SIMILAR MATERIALS.
10. WHEN THE PROGRESS OF THE WORK INTERFERES WITH A MEANS OF EGRESS FROM AN EXISTING SPACE. THE CONTRACTOR SHALL PROVIDE A TEMPORARY MEANS OF EGRESS SUBJECT TO THE APPROVAL OF AUTHORITIES HAVING JURISDICTION.
11. PROVIDE ALL BLOCKING AND ANCHORAGE REQUIRED TO COMPLETE WORK OF THE CONTRACT.
12. ALL DEMOLITION AND REMOVALS SHALL BE COORDINATED WITH EACH TRADE TO INSURE THE CONTINUITY OF ALL SERVICES TO THE EXISTING FACILITY. THE CONTRACTOR SHALL COORDINATE DEMOLITION WORK WITH NEW CONSTRUCTION DRAWINGS TO DETERMINE DIMENSIONS AND TO INSURE THAT NO ITEMS OR SERVICES WHICH ARE TO REMAIN ARE DISTURBED.
13. DO NOT SCALE DRAWINGS. FOLLOW WRITTEN DIMENSIONS ONLY.
14. DIMENSIONS SHOWN ARE NORMALLY GIVEN TO A). COLUMN CENTER LINES B). FACES OF CONCRETE/CMU SURFACES C) FACE OF METAL STUD IN DRYWALL PARTITIONS OR FURRING.
15. ALL MATERIALS AND UNDER WORK OF THIS CONTRACT SHALL BE NEW UNLESS OTHERWISE NOTED.
16. ALL DISSIMILAR MATERIALS IN CONTACT WITH EACH OTHER SHALL BE ISOLATED IN AN APPROVED MANNER.
17. ALL DEBRIS SHALL BE REMOVED OFF SITE BY THE CONTRACTOR AT THE END OF EACH DAY.
18. THE CONTRACTOR SHALL ENSURE THAT AT LEAST TWO (2) MEANS OF EGRESS ARE PROVIDED AT ALL TIMES DURING THE CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN EACH MEANS OF EGRESS FREE OF CONSTRUCTION MATERIALS, EQUIPMENT AND DEBRIS IN ORDER TO PROVIDE EMERGENCY EGRESS TO ALL OCCUPANTS. THE CONTRACTOR SHALL SUBMIT AN EVACUATION PLAN PRIOR TO THE COMMENCEMENT OF ON-SITE CONSTRUCTION ACTIVITIES SHOWING THE MEANS OF EGRESS DURING EACH PHASE OF THE PROJECT FOR REVIEW AND APPROVAL BY THE VAMC / ACOE.
19. THE CONTRACTOR SHALL EXAMINE THE EXISTING FIELD CONDITIONS TO VERIFY DIMENSIONS AND LOCATIONS OF THE STRUCTURAL, ELECTRICAL, MECHANICAL EQUIPMENT WHICH MAY NOT BE SHOWN ON THE DRAWINGS.
20. NATIONAL ELECTRIC CODE AND NATIONAL ELECTRIC SAFETY CODE EQUIPMENT CLEARANCES MUST BE MAINTAINED AT ALL TIMES.

GRAPHICAL SYMBOLS LEGEND:



US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: PMP
DRAWN BY: PMP
CHECKED BY: PMP
SUBMITTED BY: P. CHEN
FILE NAME: A-001.DWG
SIZE: ANSI E
PLOT SCALE: AS NOTED
DATE: APRIL 30, 2009
SOLICITATION NO.: -
VA PROJECT NO.: VA-668-P-118
DRAWING CODE: -
PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

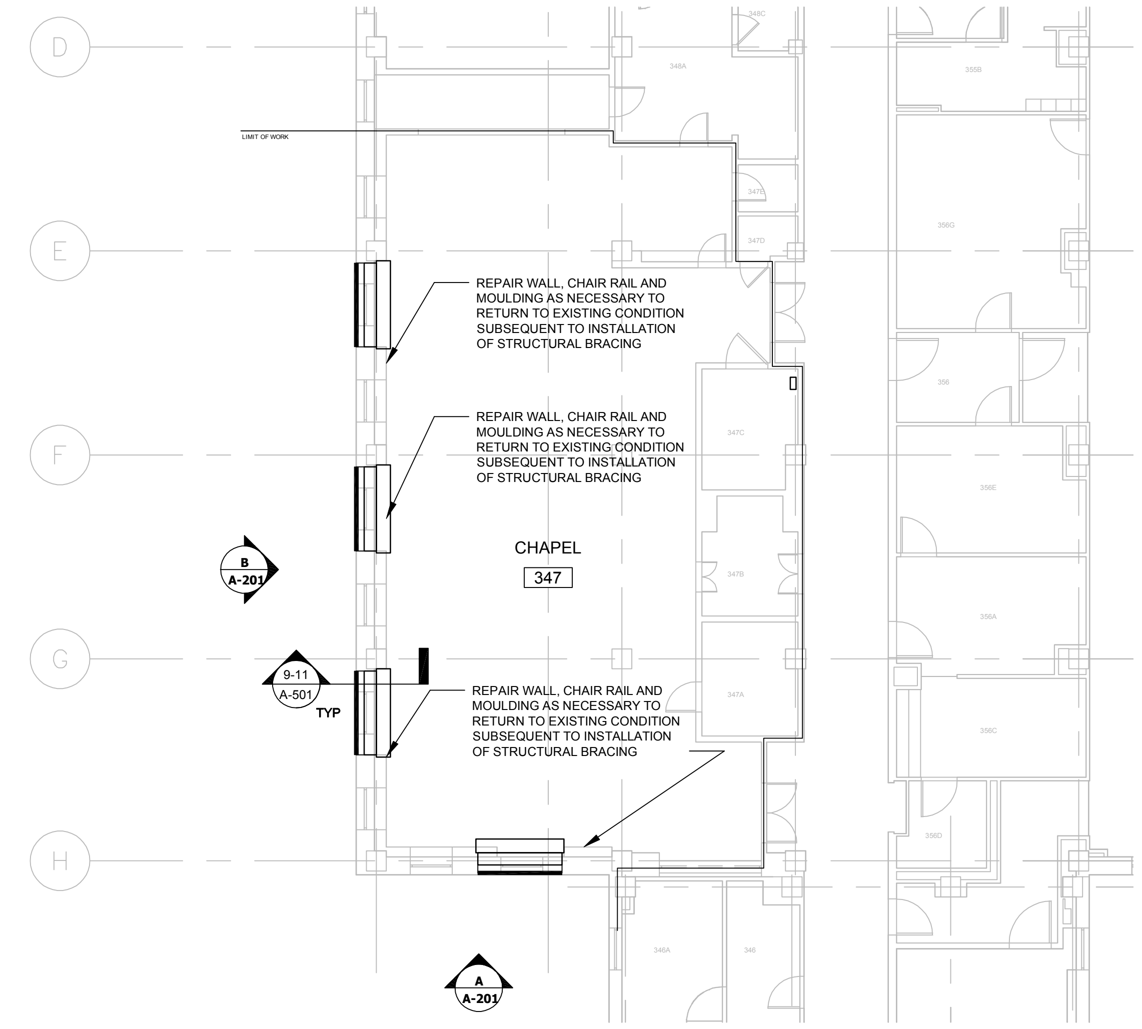
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC, WATER AND CHAPEL
PROVIDENCE, RHODE ISLAND
LEGENDS, GENERAL NOTES AND ABBREVIATIONS

SHEET IDENTIFICATION
A-001
SHEET 5 OF 34

GENERAL NOTES

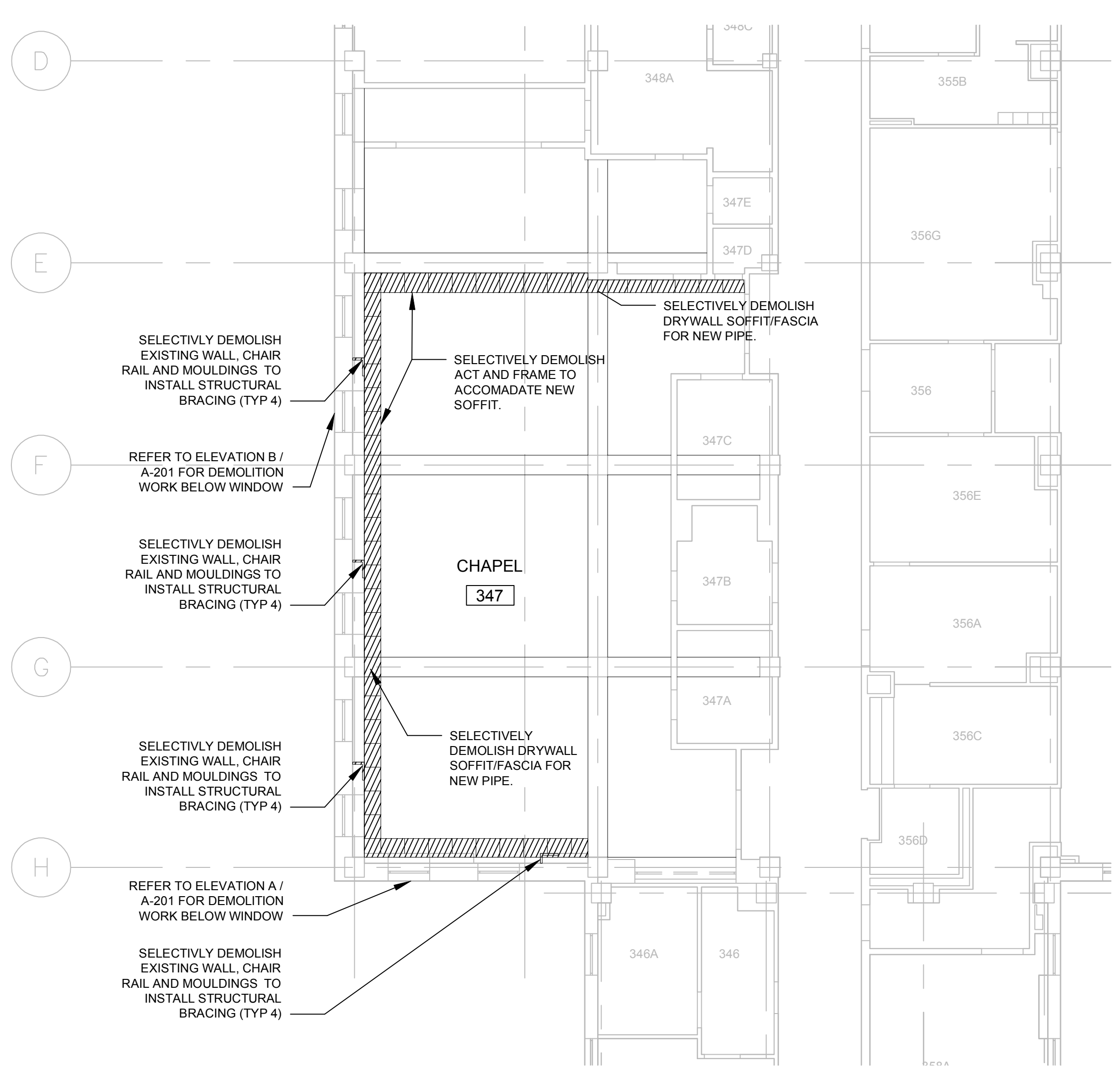
ALL CEILING TILES AND FRAMING TO BE CAREFULLY REMOVED AND STORED SAFELY FOR REUSE.

1. SEE FINISH SCHEDULE FOR SOFFIT FINISH
2. SEE STRUCTRAL DRAWINGS FOR BRACING DETAILS



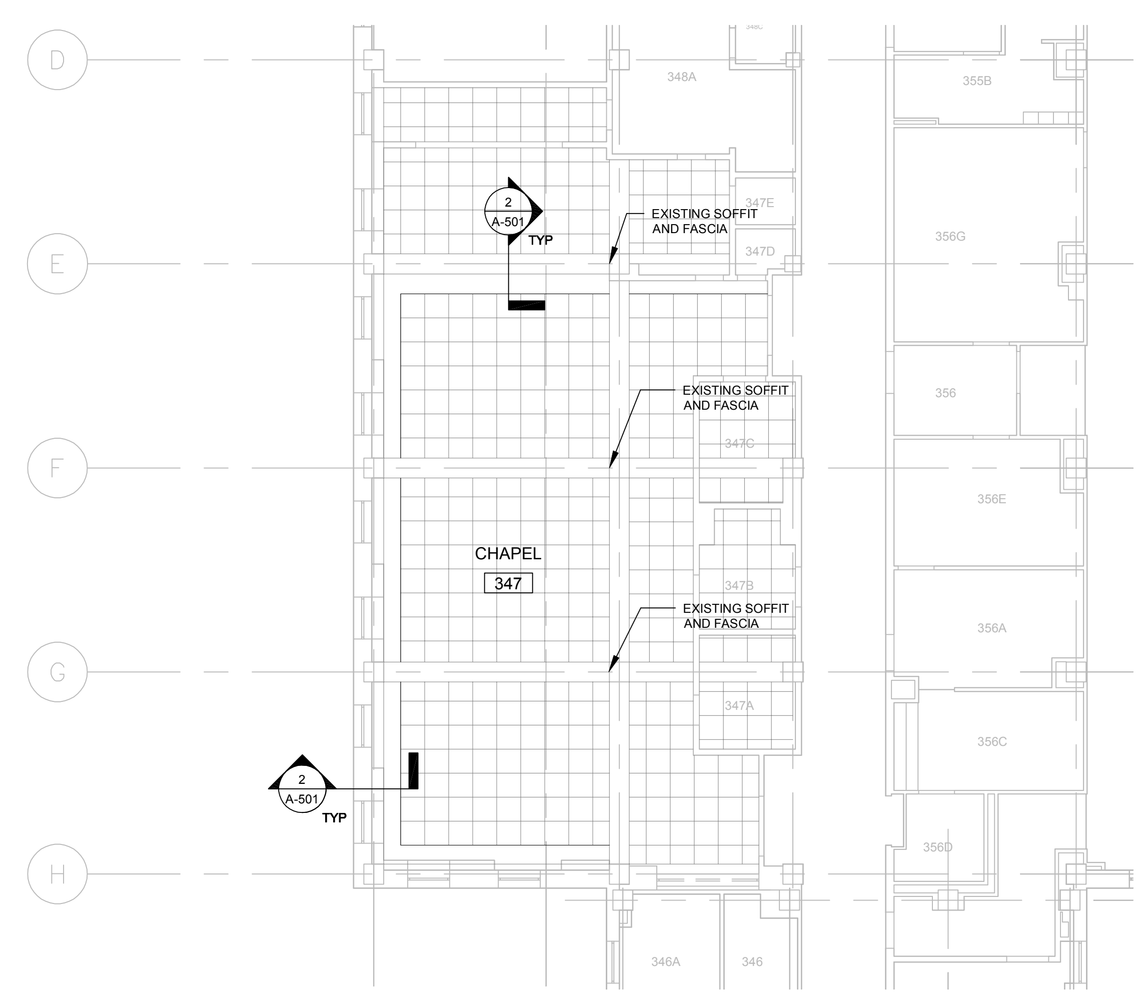
CHAPEL 3C - NEW WORK FLOOR PLAN

SCALE: 1/8"=1'-0"



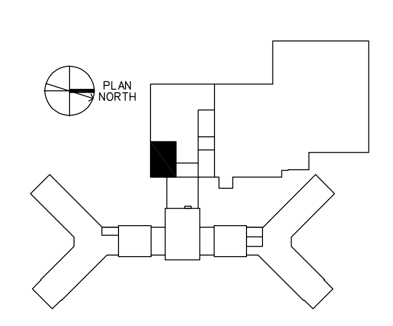
CHAPEL 3C - DEMOLITION PLAN RCP

SCALE: 1/8"=1'-0"



CHAPEL 3C - NEW WORK RCP

SCALE: 1/8"=1'-0"



US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC in association with STV Incorporated

DESIGNED BY: PMP		DATE: APRIL 30, 2009
DWN BY: PMP	CKD BY: CP	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: A-100.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

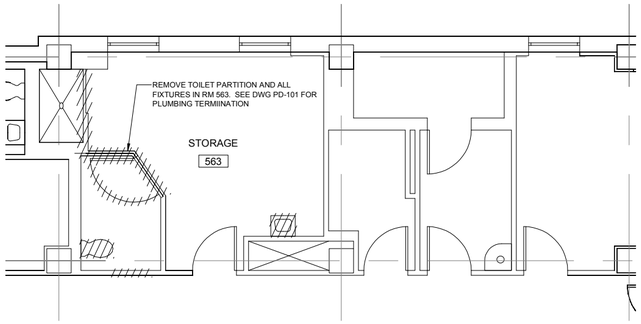
VETERANS AFFAIRS MEDICAL CENTER BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

THIRD FLOOR 3C - DEMOLITION AND NEW WORK PLANS

SHEET IDENTIFICATION

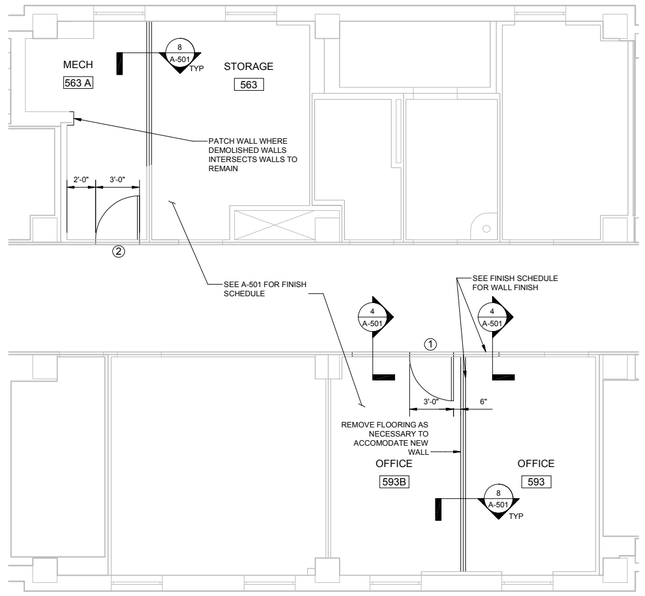
A-100

SHEET 6 OF 34



PARTIAL WARD 5B - DEMOLITION PLAN

SCALE: 1/4"=1'-0"

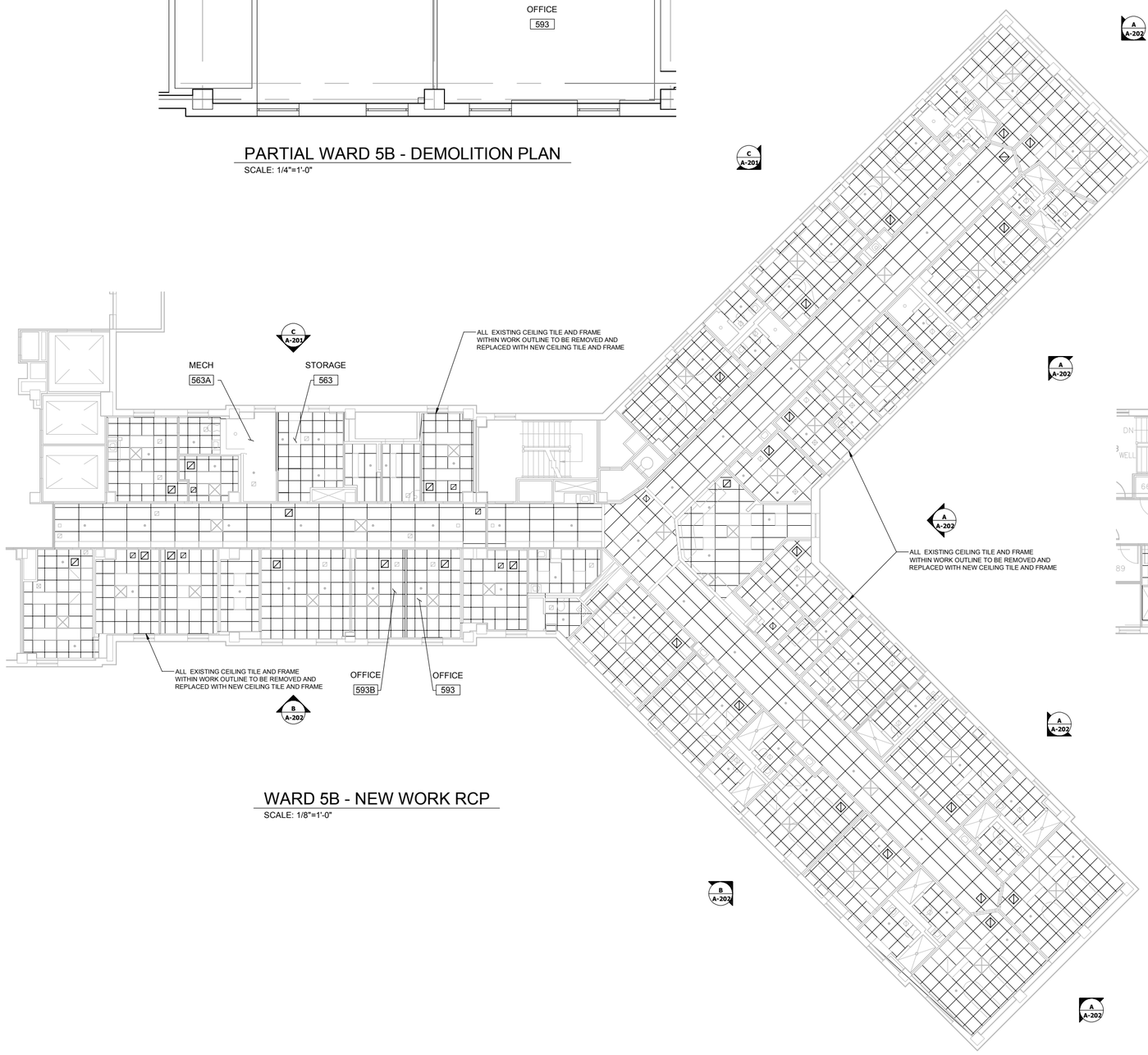


PARTIAL WARD 5B - NEW WORK PLAN

SCALE: 1/4"=1'-0"

GENERAL NOTES

1. CORRIDOR CEILING TILE REPLACMENT TO MATCH EXISTING COLOR AND SIZE 2'X2' WITH 1'X1' SCORED TILE.
2. OFFICE AND PATIENT ROOM TILE REPLACMENT TO MATCH EIXTSING COLOR AND SIZE 2'X2' TILE

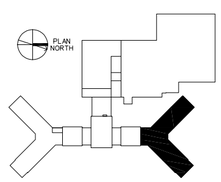


WARD 5B - NEW WORK RCP

SCALE: 1/8"=1'-0"

WARD 6B - NEW WORK RCP

SCALE: 1/8"=1'-0"



US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: PNP
DRAWN BY: PNP
CHECKED BY: P. CHEN
FILE NAME: A-101.DWG
DATE: APRIL 30, 2009
SOLICITATION NO.:
DO #:
SUBMITTED BY:
VA PROJECT NO.: VA-65A7-115
DRAWING CODE:
SIZE: ARCH E
PLOT SCALE: As noted
PLOT DATE: WED, 12 2009

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

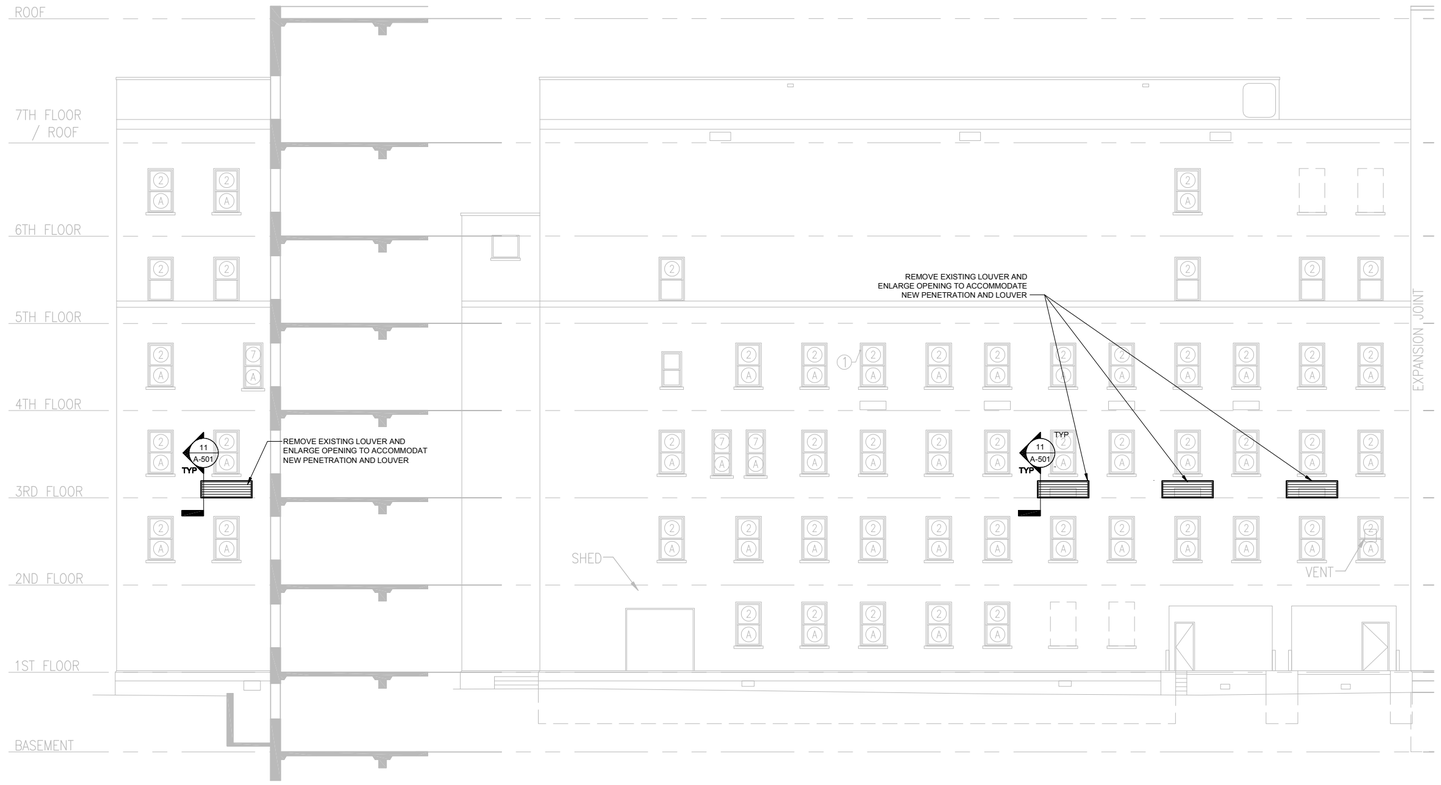
C & C Consulting Engineers, LLC in association with STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC UNITS AND CHAPEL
PROVIDENCE, RHODE ISLAND
FIFTH FLOOR 5B - DEMOLITION AND NEW WORK PLANS

SHEET IDENTIFICATION
A-101
SHEET 7 OF 34

GENERAL NOTES

1. ALL PENTRATIONS THRU EXTERIOR WALL ARE TO BE CAULKED AND SEALED WEATHERTIGHT
2. ALL AIR CONDITIONING UNITS AND ACCESSOREIS TO BE TURNED OVER TO THE VAMC
3. ALL PROPERTY AND PERSONNEL TO BE PROTECTED FROM WORK ABOVE TO THE APPROVAL OF THE VAMC
4. SEE MECHANICAL DRAWINGS FOR LOUVER SIZE
5. GLAZING TO MATCH EXISTING



A PARTIAL NORTH ELEVATION
SCALE: 1/8"=1'-0"

B PARTIAL EAST ELEVATION
SCALE: 1/8"=1'-0"

C PARTIAL SOUTH ELEVATION
SCALE: 1/8"=1'-0"

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY:	DATE:
PMP	APRIL 30, 2009
DWN BY:	SOLICITATION NO.:
PMP	
CKD BY:	VA PROJECT NO.:
ZP	VA-460-07-115
SUBMITTED BY:	DRAWING CODE:
P. CHEN	
FILE NAME:	
A201.DWG	
SIZE:	PLOT SCALE:
ANSI D	AS NOTED
	PLOT DATE:
	APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC PENTHOUSE AND CHAPEL
PROVIDENCE, RHODE ISLAND
THIRD AND FIFTH FLOOR - ELEVATIONS

SHEET IDENTIFICATION
A-201
SHEET 8 OF 34

A PARTIAL WEST ELEVATION

SCALE: 1/8"=1'-0"

B PARTIAL NORTH ELEVATION

SCALE: 1/8"=1'-0"

GENERAL NOTES

1. ALL PENTRATIONS THRU EXTERIOR WALL ARE TO BE CAULKED AND SEALED WEATHERTIGHT
2. ALL AIR CONDITIONING UNITS AND ACCESSOREIS TO BE TURNED OVER TO THE VAMC
3. ALL PROPERTY AND PERSONNEL TO BE PROTECTED FROM WORK ABOVE TO THE APPROVAL OF THE VAMC
4. SEE MECHANICAL DRAWINGS FOR LOUVER SIZE
5. GLAZING TO MATCH EXISTING

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE
		APPR

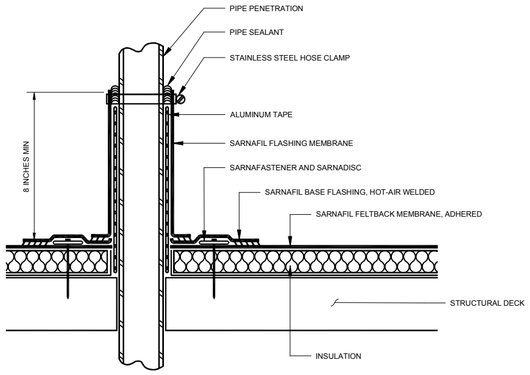
DESIGNED BY: PMP	DATE: APRIL 30, 2009
DRAWN BY: PMP	QSO BY:
CHECKED BY: P. CHEN	SUBMITTED BY:
FILE NAME: A-202.DWG	
SIZE: ARCH D	PLOT SCALE: AS NOTED
	SOLICITATION NO.:
	VA PROJECT NO.: VA-459-07-116
	DRAWING CODE: A
	PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

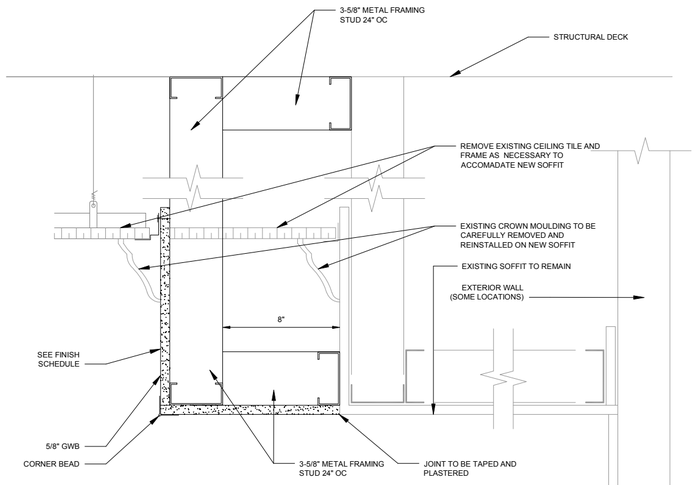
C & C Consulting Engineers, LLC
in association with
STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC DUCTWORK AND CHAPEL
PROVIDENCE, RHODE ISLAND
FIFTH FLOOR - ELEVATIONS

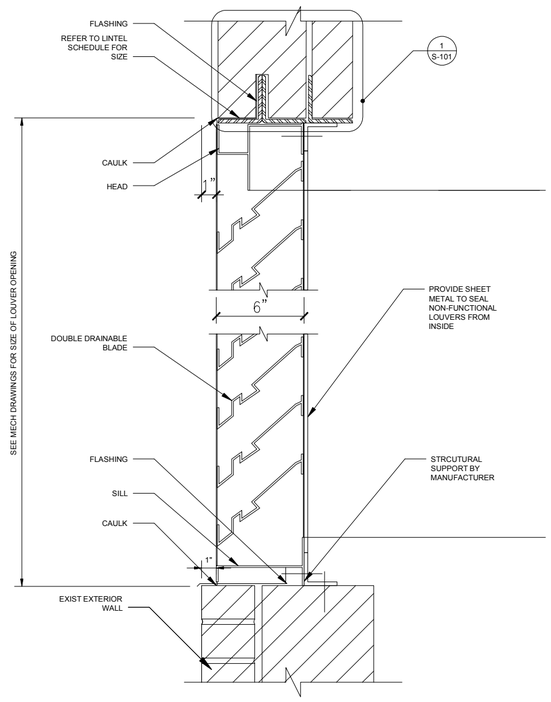
SHEET IDENTIFICATION
A-202
SHEET 9 OF 34



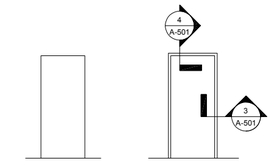
1 PIPE PENETRATION DETAIL
NTS



2 SOFFIT DETAIL
3" = 1'-0"

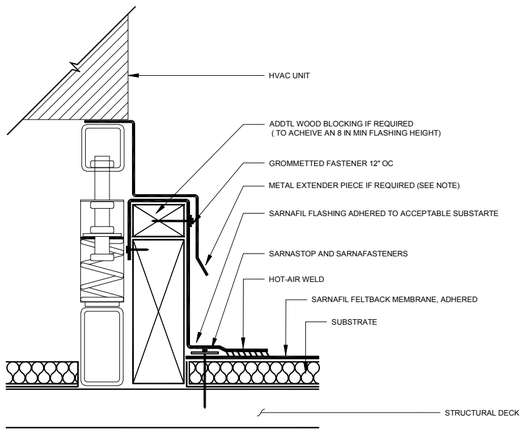


11 LOUVER DETAIL
3" = 1'-0"



DOOR DA 1/4" = 1'0"

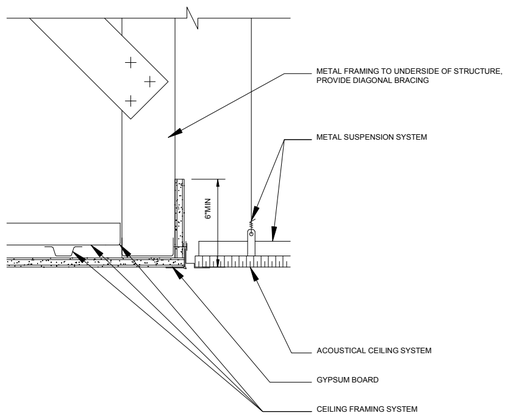
FRAME FA 1/4" = 1'0"



NOTE:

1. METAL EXTENDER PIECE IS REQUIRED IF EXISTING COUNTERFLASHING IS CONTAMINATED AND OR COUNTERFLASHING IS LESS THAN 4 INCHES WIDE. FASTENERS 12 INCHES OC WITH GROMMETTED FASTENER.
2. ALL ROOFING WORK TO BE COMPLETED BY A SARNAFIL APPROVED INSTALLER.

5 ROOF DETAILS
NTS



10 CHANGE IN CEILING MAT. DETAIL
3" = 1'-0"

STEEL ANGLE LINTEL SCHEDULE
HOT DIP GALVANIZED

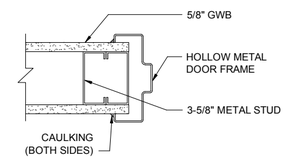
MASONRY OPENING	WALL THICKNESS		
	4" WALL	6" WALL	8" WALL
3'-0"	1-L3x3x[x]	2-L3x3x[x]	2-L3x3x[x]
4'-0"	1-L4x3x[x]	2-L3x2[x]	2-L4x3x[x]
5'-0"	1-L4x3x[x]	2-L3x2[x]	2-L5x3x[x]
6'-0"	1-L5x3x[x]	2-L3x2[x]	2-L5x3x[x]
8'-0"	1-L6x3x[x]	2-L3x2[x]	2-L6x3x[x]

NOTES:
1. PROVIDE AND INSTALL LINTEL ANGLES FOR MASONRY OPEININGS IN ACCORDANCE WITH WITH THE SCHEDULE ABOVE. INSTALL LONG LEG VERTICAL. SEE DRAWING A-100 FOR LOCATIONS.
2. PROVIDE 6" MIN BEARING AT EACH END BUT NOT LESS THAN 1" PER FOOT OF SPAN. FILL 2 COURSES OF MASONRY BELOW BEARING WITH MORTAR.
3. WHERE MINIMUM BEARING CAN NOT BE PROVIDED ATTACH SECURELY TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE SUPPORTS.
4. WHERE LINTELS OCCUR IN EXTERIOR WALLS MINIMUM LINTEL THICKNESS SHALL BE 5/16" AND GALAVANZIED.

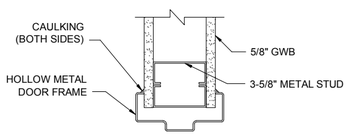
DOOR SCHEDULE

SYMBOL	WIDTH	HEIGHT	THICK	MATERIAL	CORE	ELEV	DOOR AND FRAME FINISH	FRAME							REMARKS
								ELEV	MATERIAL	LABEL	HARDWARE SET	HEAD	JAMB		
1	3'-0"	7'-0"	1 3/4"	WOOD	SOLID	DA	NOTES 1,2	FA	18 GA HM	1 HR	VAMC	4	3		
2	3'-0"	7'-0"	1 3/4"	WOOD	SOLID	DA	NOTES 1,2	FA	18 GA HM	1 HR	VAMC	4	3		

NOTES:
1. DOORS FINISH TO MATCH EXISTING
2. PAINT FRAMES TO MATCH EXISTING



3 JAMB
3" = 1'-0"

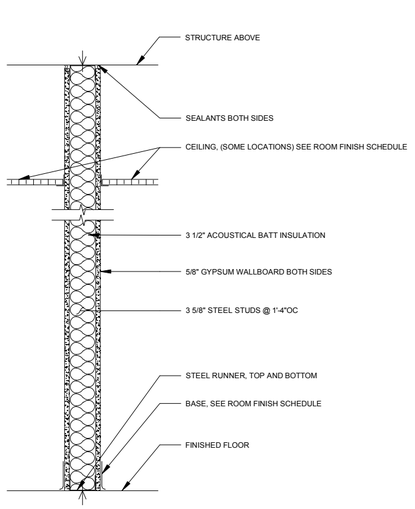


4 HEAD
3" = 1'-0"

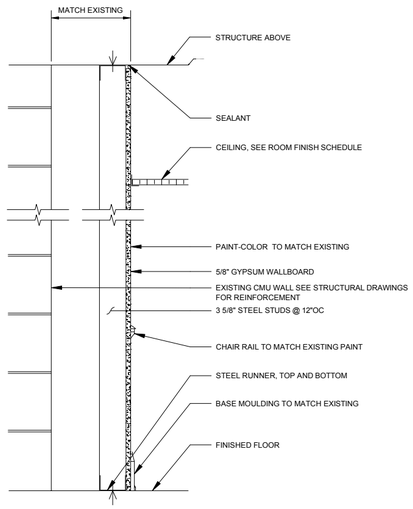
FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR	BASE	WALLS				CEILING		REMARKS
				NORTH	EAST	SOUTH	WEST	MATERIAL	HEIGHT	
347	CHAPEL	VINYL TILE (3)	N/A	PAINT (1)	PAINT (1)	PAINT (1)	PAINT (1)	ACT	MATCH EXISTING	SOFFIT TO BE PAINTED
563	STORAGE	CERAMIC TILE (3)	TILE (3)	PAINT	TILE/PAINT	PAINT	TILE/PAINT	EXISTING TO REMAIN PATCH AS REQUIRED	MATCH EXISTING	SEE NOTE 2
563A	MECH. ROOM	CERMAIC TLE (3)	TILE (3)	TILE	TILE	PAINT	TILE	EXPOSED STRUCTURE	N/A	SEE NOTE 2
593	OFFICE	VINYL TILE (3)	VINYL (1)	PAINT	PAINT	PAINT (1)	PAINT (1)	EXISTING TO REMAIN PATCH AS REQUIRED	MATCH EXISTING	SEE NOTE 1
593B	OFFICE	VINYL TILE (3)	VINYL (1)	PAINT (1)	PAINT	PAINT	PAINT (1)	EXISTING TO REMAIN PATCH AS REQUIRED	MATCH EXISTING	SEE NOTE 1
	5TH FLOOR HALLWAY B WING	VINYL TILE (3)	VINYL (1)	PAINT	PAINT (1)	PAINT	PAINT	ACT	MATCH EXISTING	SEE NOTE 1

NOTES:
1. ALL NEW WORK TO MATCH EXISTING COLOR, TYPE AND SIZE.
2. BOTTOM 2" OF NEW WALL TO BE PAINTED, COLOR TO MATCH EXISTING TILE BASE
3. EXISTING TO REMAIN



8 WARD 5B WALL DETAIL
1 1/2" = 1'-0"



9 REPAIR WORK AT CHAPEL WALL DETAIL
1 1/2" = 1'-0"

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

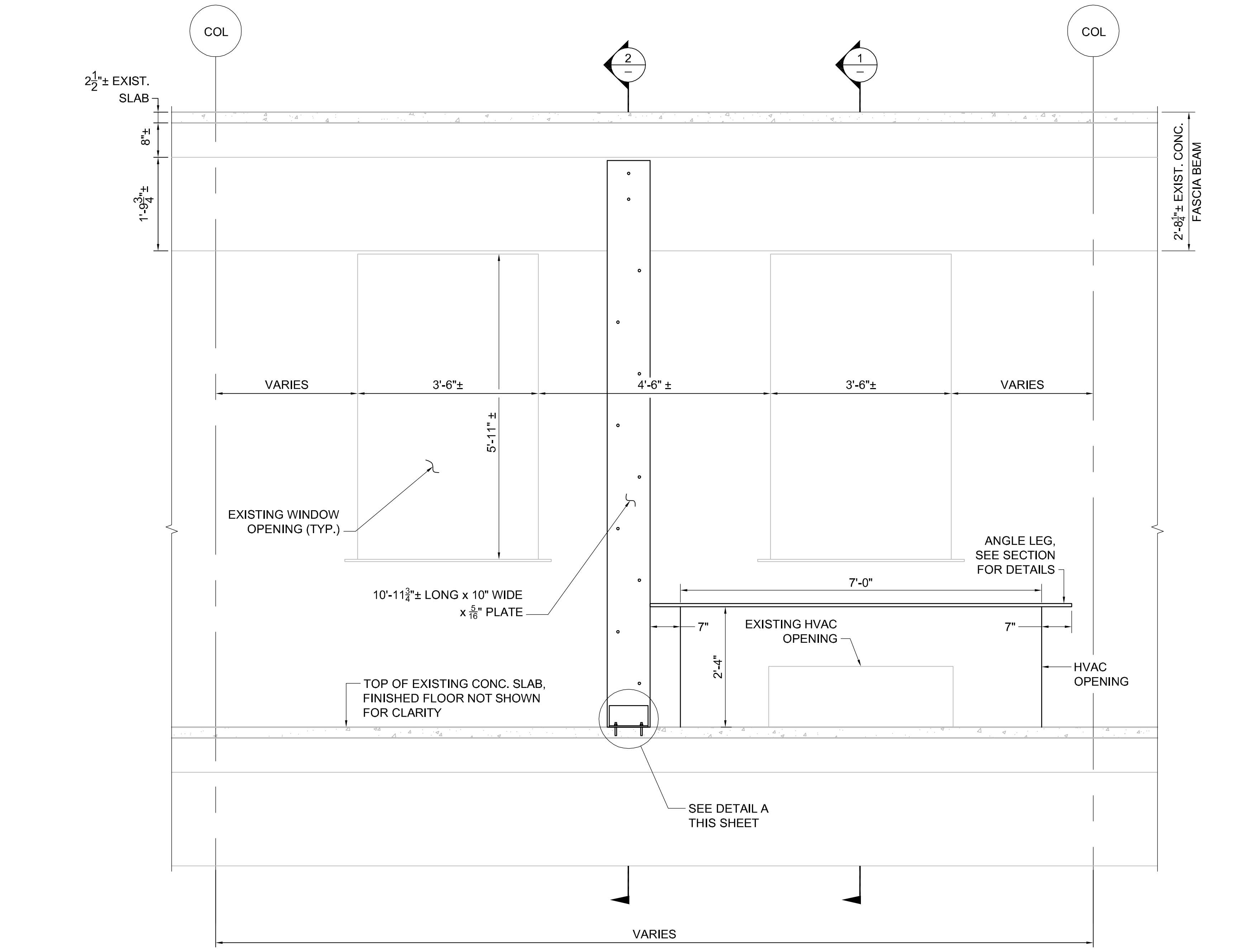
DESIGNED BY: PMP
DRAWN BY: PMP
CHKD BY: DP
SUBMITTED BY: P. CHEN
FILE NAME: A-501.DWG
SIZE: ARCH E
PLOT SCALE: 1:1
PLOT DATE: APRIL 30 2009
DATE: APRIL 30, 2009
SOLICITATION NO:
VA PROJECT NO: VA-69-07-115
DRAWING CODE:

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC in association with STV Incorporated

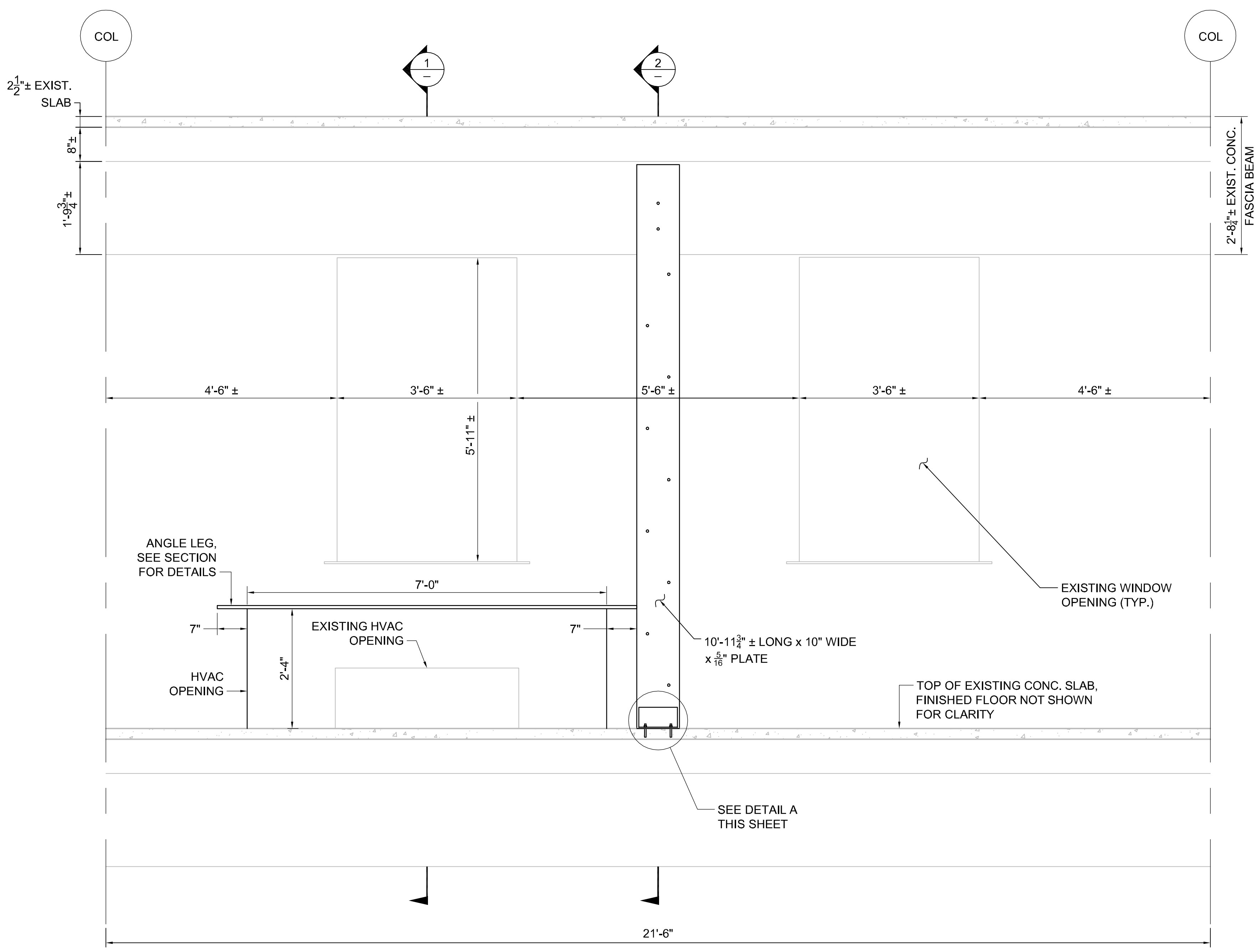
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN BUILDING 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
DETAILS AND SCHEDULES

SHEET IDENTIFICATION
A-501
SHEET 10 OF 34



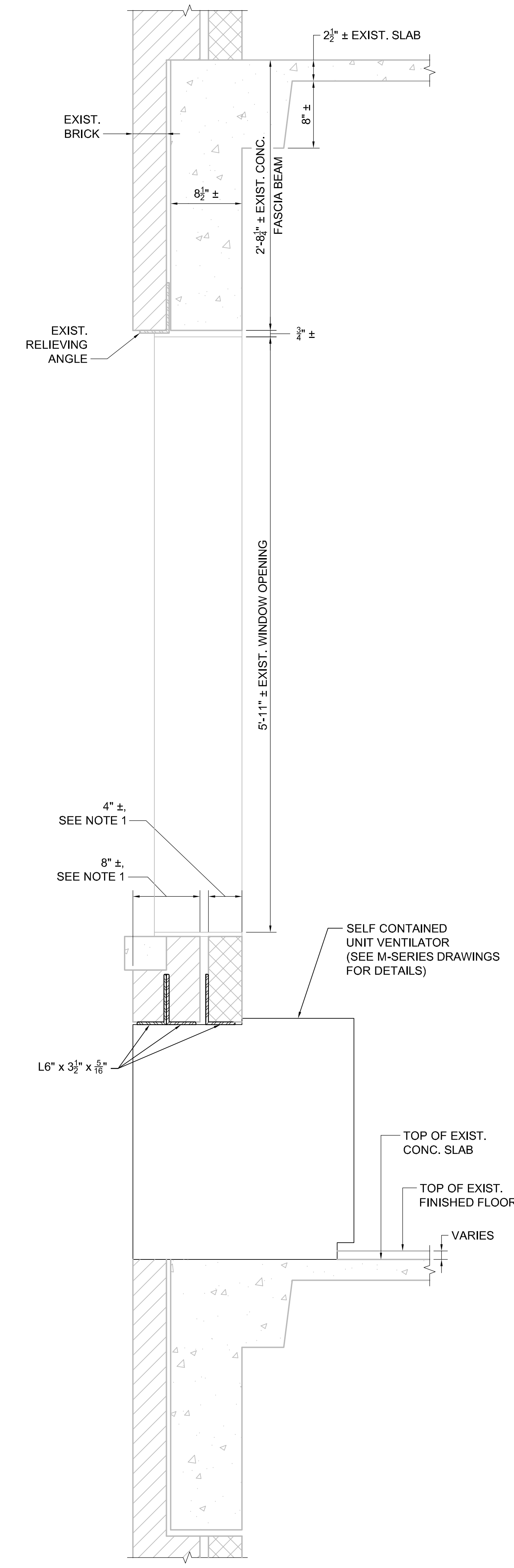
INTERIOR ELEVATION - SOUTH CHAPEL WALL

SCALE: ¾" = 1'-0"



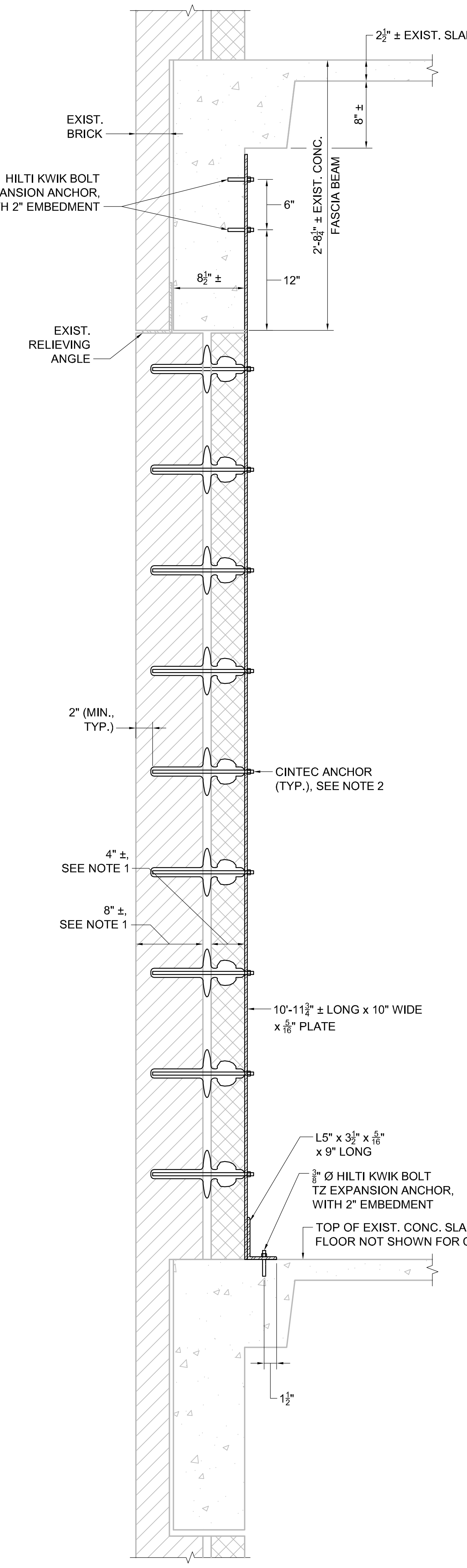
INTERIOR ELEVATION - EAST CHAPEL WALL

SCALE: ¾" = 1'-0"



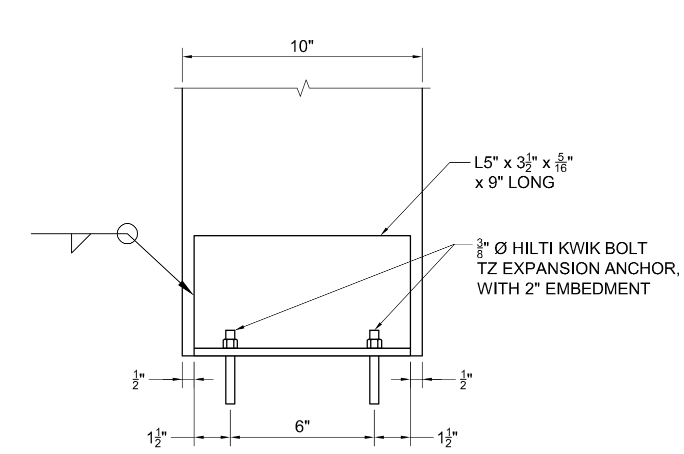
SECTION 1

SCALE: 1½" = 1'-0"



SECTION 2

SCALE: 1½" = 1'-0"



DETAIL A

SCALE: 3" = 1'-0"

GENERAL NOTES

1. THE WALL SHOWN IS BASED ON DATA FROM EXISTING CONTRACT DOCUMENTS WHICH SUGGESTS 2 WYTHES OF OUTER BRICK AND 1 WYTHE OF INTERIOR MASONRY BACKUP. THE CONTRACTOR SHALL CONFIRM TYPE AND DIMENSIONS OF THE WALL MATERIAL AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. SPACING AND TYPE OF CINTEC ANCHOR SHALL BE COORDINATED WITH CINTEC AMERICA, INC. OF GLEN BURNIE MARYLAND.
3. STEEL ANGLES AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36.

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

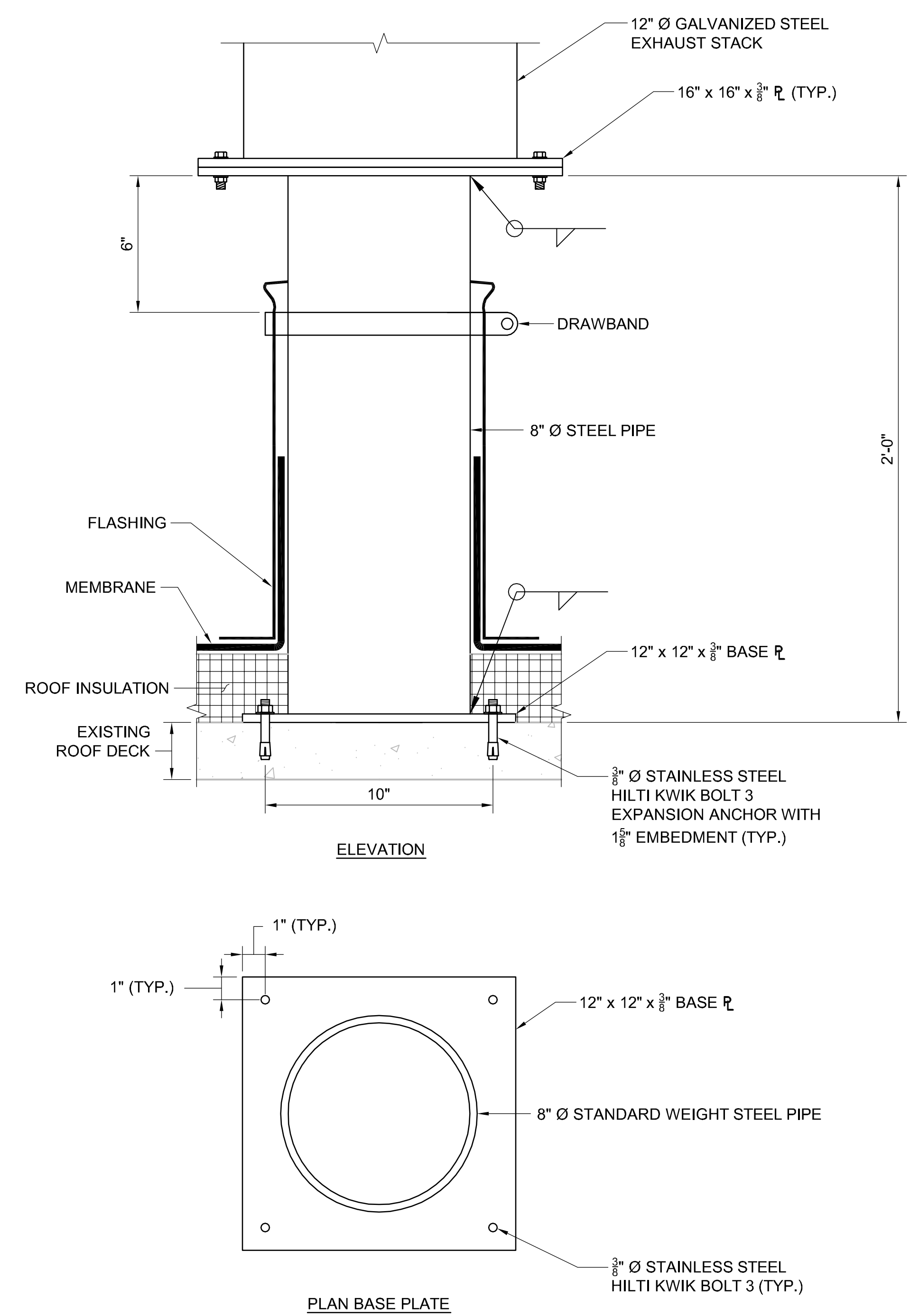
C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: SGM		DATE: APRIL 30, 2009
DWN BY: HT	CKD BY: COD	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: S-101.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

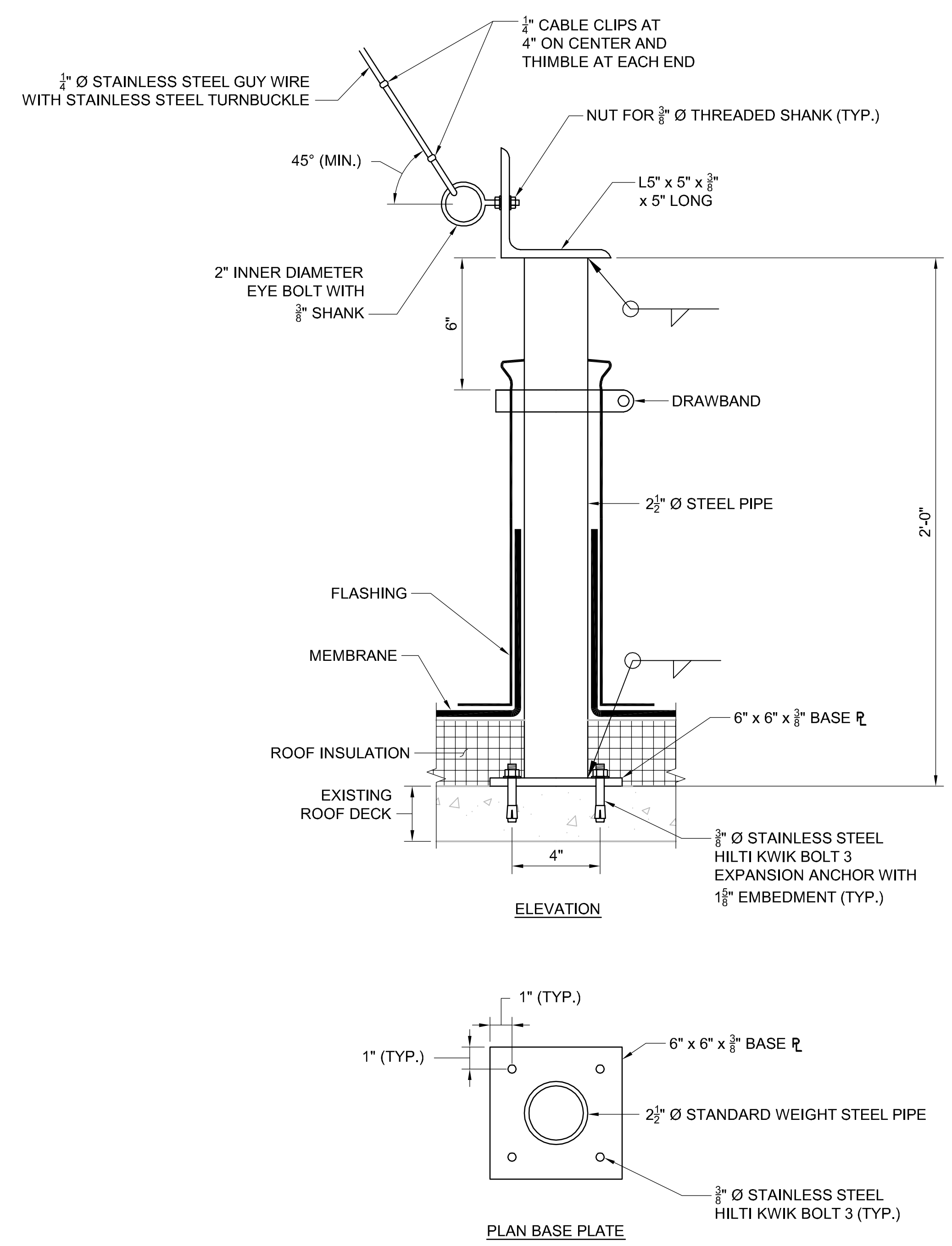
CHAPEL DETAILS

SHEET IDENTIFICATION
S-101
SHEET 11 OF 34



EXHAUST STACK SUPPORT DETAIL

SCALE: 3" = 1'-0"



GUY WIRE CONNECTION TO SUPPORT POST DETAIL

SCALE: 3" = 1'-0"

NOTES

1. SEE SHEET A-501 FOR FLASHING AND RELATED ROOFING DETAILS.
2. SUPPORTS SHOWN ON THIS DRAWING SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: TFQ		DATE: APRIL 30, 2009
DWN BY: TFQ	CKD BY: COD	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: S-102.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

ROOF STACK SUPPORT DETAILS

SHEET IDENTIFICATION
S-102
SHEET 12 OF 34

MECHANICAL LEGEND CONTROL DIAGRAMS

SYMBOL	DESCRIPTION
AC INV	AC INVERTER
AFS	AIRFLOW STATION
AMS	AIR MEASURING STATION
--------	CONTROL TUBING
———	CONTROL WIRING
DO	DAMPER OPERATOR
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
EP	ELECTRIC - PNEUMATIC SWITCH
ES	END SWITCH
FZ	FREEZESTAT
FS	FLOW SWITCH
FT	FLOW TRANSMITTER
H	HUMIDITY SENSOR
HL	HIGH LIMIT SWITCH
HC	HUMIDITY CONTROLLER
HOA	HAND-OFF-AUTOMATIC SWITCH
MS HOA	COMBINED MOTOR STARTER AND HAND-OFF-AUTOMATIC SWITCH
M	MOTOR
MS	MOTOR STARTER
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PS	PRESSURE SENSOR
PC	PRESSURE CONTROLLER
PE	PNEUMATIC - ELECTRIC SWITCH
PT	PRESSURE TRANSMITTER
R	RELAY
SDT	SMOKE DETECTOR
SP	STATIC PRESSURE W/ PITOT TUBE
SPT	STATIC PRESSURE TRANSMITTER
SR	SWITCHING RELAY
S	TOGGLE SWITCH
T	TEMPERATURE SENSOR
T	TEMPERATURE SENSOR W/ BULB
TC	TEMPERATURE CONTROLLER
TDR	TIME DELAY RELAY
VSD	VARIABLE SPEED DRIVE
VP	VELOCITY PRESSURE SENSOR
VC	VOLUME CONTROLLER
VT	VOLUME TRANSMITTER
ATC	AUTOMATIC TEMPERATURE CONTROL PANEL
H	HUMIDISTAT
T	THERMOSTAT
LWC	LOW WATER CUTOFF SWITCH

MECHANICAL LEGEND PIPING SYSTEMS

SYMBOL	DESCRIPTION
	BALL VALVE
	BUTTERFLY VALVE
	BALANCE VALVE
	CHECK VALVE
	STRAINER
	MULTI-PURPOSE VALVE
	GATE VALVE
	GLOBE VALVE
	OUTSIDE SCREW & YOKE GATE VALVE (OS&Y)
	PUMP
	THERMOMETER
	MOTORIZED TWO-WAY VALVE
	REDUCER
	UNION
	MOTORIZED THREE-WAY VALVE
	FLEX CONNECTION
	PRESSURE GAGE W/COCK
	END CAP
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	FLOAT & THERMOSTATIC TRAP ASSEMBLY
	AIR VENT (MANUAL OR AUTO.)
	BRANCH OFF TOP OF MAIN
	BRANCH OFF BOTTOM OF MAIN
	ELBOW, TURNED DOWN
	ELBOW, TURNED UP
	PIPING TO BE REMOVED
	DOMESTIC WATER MAKE UP
—— HWS ——	HOT WATER SUPPLY
— — HWR — —	HOT WATER RETURN
—— CHWS ——	CHILLED WATER SUPPLY
— — CHWR — —	CHILLED WATER RETURN
—— CWS ——	CONDENSER WATER SUPPLY
— — CWR — —	CONDENSER WATER RETURN
—— C ——	CONDENSATE DRAIN LINE
—— HPS ——	HIGH PRESSURE STEAM
—— HPC ——	HIGH PRESSURE CONDENSATE
—— MPS ——	MEDIUM PRESSURE STEAM
—— MPC ——	MEDIUM PRESSURE CONDENSATE
—— LPS ——	LOW PRESSURE STEAM
—— LPC ——	LOW PRESSURE CONDENSATE
—— CPD ——	CONDENSATE PUMP DISCHARGE
—— LPCS ——	LOW PRESSURE CLEAN STEAM
CV–EX	EXHAUST AIR CONTROL VALVE
CV–SUP	SUPPLY AIR CONTROL VALVE

MECHANICAL LEGEND AIR SYSTEMS

SYMBOL	DESCRIPTION
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	RETURN OR EXHAUST DUCT UP
	RETURN OR EXHAUST DUCT DN.
	EXISTING DUCT (SINGLE LINE)
	EXISTING DUCT (DOUBLE LINE)
	NEW DUCT (SINGLE LINE)
	NEW DUCT (DOUBLE LINE)
	ACOUSTICALLY LINED DUCT (SINGLE LINE)
	ACOUSTICALLY LINED DUCT (DOUBLE LINE)
	DUCT TO BE REMOVED (SINGLE LINE)
	DUCT TO BE REMOVED (DOUBLE LINE)
	FLUSH CAP, SINGLE LINE
	SUPPLY DIFFUSER
	RETURN/EXHAUST GRILLE
	LINEAR DIFFUSER
	SUPPLY AIR FLOW
	RETURN/EXHAUST AIR FLOW
LD	LOUVER DOOR (SIZE AS NOTED)
UD	UNDER CUT DOOR
	REHEAT COIL
	CONSTANT/VARIABLE AIR VOLUME BOX
	CONSTANT/VARIABLE AIR VOLUME W/ REHEAT COIL
	CONSTANT/VARIABLE AIR VOLUME W/SOUND ATTENUATOR
	CONSTANT/VARIABLE AIR VOLUME W/ATTEN. & REHEAT
VD	VOLUME DAMPER (PLAN VIEW)
FD	FIRE DAMPER (PLAN VIEW)
GD	GRAVITY DAMPER (PLAN VIEW)
SD	SMOKE DAMPER (PLAN VIEW)
FSD	FIRE SMOKE DAMPER (PLAN VIEW)
ACD	CONTROL DAMPER - AUTOMATIC (PLAN VIEW)
	HUMIDIFIER

HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES: 89°F Db SUMMER; 73°F Wb SUMMER; 6°F Db WINTER

DESIGN ALTITUDE: 41 FT.

INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db °F	% HUMIDITY	Db °F	% HUMIDITY
FIFTH FLOOR				
SUPPORT SPACES/OFFICES/CORRIDORS	70	50	75	30
PATIENT ROOMS	70	50	75	30
MECHANICAL EQUIPMENT ROOMS	86	–	60	–
SIXTH FLOOR				
SUPPORT SPACES/OFFICES/CORRIDORS	70	50	75	30
PATIENT ROOMS	70	50	75	30

MECHANICAL GENERAL NOTES

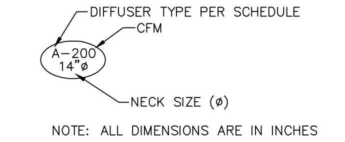
1. PROVIDE AND INSTALL PIPE, FITTINGS AND VALVES WHERE SHOWN, SEE SPECIFICATIONS. COORDINATE NEW LOCATIONS WITH EXISTING EQUIPMENT AND PIPING.
2. COORDINATE NEW PIPING WITH STRUCTURAL COMPONENTS, PLUMBING PIPING, LIGHTS, ETC. OFFSET NEW PIPING AS REQUIRED. CONTRACTOR SHALL FIELD VERIFY AVAILABLE CLEARANCE PRIOR TO BID.
3. PIPE SIZING SHOWN INDICATES NOMINAL PIPE DIMENSIONS.
4. THIS PLAN IS GENERALLY SCHEMATIC IN NATURE. EVERY ELBOW, FITTING, ETC. IS NOT SHOWN. PROVIDE SUCH COMPONENTS AS REQUIRED FOR COMPLETE INSTALLATION, PROPERLY COORDINATED WITH ALL TRADES.
5. PROVIDE FLOW CONTROL VALVES IN ALL BRANCH LINES TO FAN COIL UNITS AS REQUIRED TO PROPERLY BALANCE THE ENTIRE AIR SYSTEM.
6. PROVIDE FLEXIBLE CONNECTORS AT ALL EQUIPMENT AND PUMP CONNECTIONS.
7. INSTALL ACCESS DOORS AT ALL COILS, DAMPERS AND CONTROL DEVICES.
8. ALL MATERIALS, METHODS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
9. PROVIDE AND INSTALL SEISMIC RESTRAINTS ON ALL EQUIPMENT AND PIPING IN COMPLIANCE WITH PROJECT SPECIFICATIONS AND APPLICABLE CODES.
10. ALL CONTROLS SHALL BE CONNECTED TO THE EXISTING METASYS SYSTEM USING BACNET PROTOCOL.
11. ANY PIPING, ETC. NOT SERVING STAIRWELL AREAS SHALL NOT PENETRATE STAIRWELL WALLS.
12. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
13. ACCESS LOCATIONS IN SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEAN-OUTS, CONTROLS, ETC.
14. PROVIDE FLEXIBLE PIPE CONNECTIONS AT ALL BUILDING EXPANSION AND SEISMIC JOINTS.
15. CONTROLS CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR REASSIGNING ALL RELOCATED AND NEW SENSORS TO CORRESPOND WITH THE DEVICES AT SENSOR LOCATIONS.
16. A 30% PROPYLENE GLYCOL SOLUTION SHALL BE PROVIDED FOR CHILLED WATER AND HOT WATER SYSTEMS.
17. MECHANICAL CONTRACTOR SHALL REVIEW THE CONSTRUCTION SEQUENCE DRAWINGS AND COORDINATE WORK WITH THE GENERAL CONTRACTOR.
18. ALL PIPING AND DUCTWORK SHALL BE INSULATED IN ACCORDANCE WITH ASHRAE 90.1-2007.

MECHANICAL ABBREVIATIONS

SYMBOL	DESCRIPTION
ACD	AUTOMATIC CONTROL DAMPER
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
CD	CEILING DIFFUSER
CP	CONDENSATE PUMP
CR	CEILING REGISTER
CU	CONDENSING UNIT
CW	COLD WATER
Db	DRY BULB TEMPERATURE
dB	DECIBELS
DDC	DIRECT DIGITAL CONTROL
DX	DIRECT EXPANSION
E.A.	EXHAUST AIR
ECC	ENGINEERING CONTROL CENTER
EER	ENERGY EFFICIENCY RATIO
EF	EXHAUST FAN
ET	EXPANSION TANK
EXIST.	EXISTING
FD	FIRE DAMPER
HP	HORSEPOWER
LPCS	LOW PRESSURE CLEAN STEAM
LPC	LOW PRESSURE STEAM CONDENSATE RETURN
LPS	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
LBS/HR	POUNDS PER HOUR
MPR	MEDIUM PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM
MAX.	MAXIMUM
MIN.	MINIMUM
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
O.A.	OUTDOOR AIR
PD	PRESSURE DROP
PPG	PROPYLENE GLYCOL
PRV	PRESSURE REDUCING VALVE
R.A.	RETURN AIR
Rh	RELATIVE HUMIDITY
S.A.	SUPPLY AIR
H	STEAM HUMIDIFIER
SP	STATIC PRESSURE
VD	VOLUME DAMPER (MANUAL OPPOSED BLADE)
VFD	VARIABLE FREQUENCY DRIVE
Wb	WET BULB TEMPERATURE
	CONNECT TO EXISTING

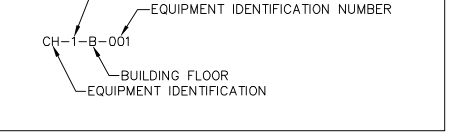
MECHANICAL LEGEND TERMINAL UNIT TAGS

DIFFUSER TAG



NOTE: ALL DIMENSIONS ARE IN INCHES

EQUIPMENT TAG



US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

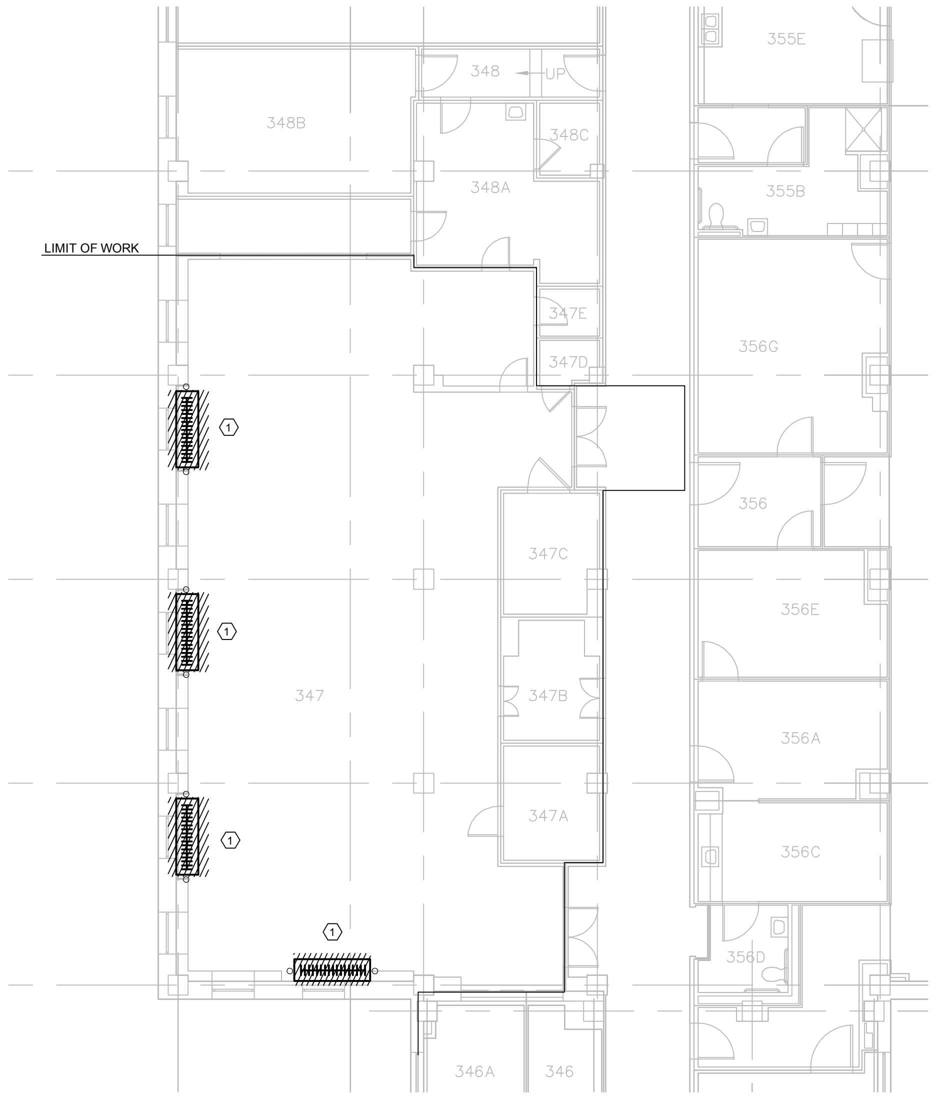
US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: EHW | DWN BY: EHW | CKD BY: ADA | SUBMITTED BY: P. CHEN | FILE NAME: M-001.DWG | SIZE: ANSI E | PLOT SCALE: AS NOTED | DATE: APRIL 30, 2009 | SOLICITATION NO.: - | VA PROJECT NO.: VA-650-07-115 | DRAWING CODE: - | PLOT DATE: APRIL 30, 2009

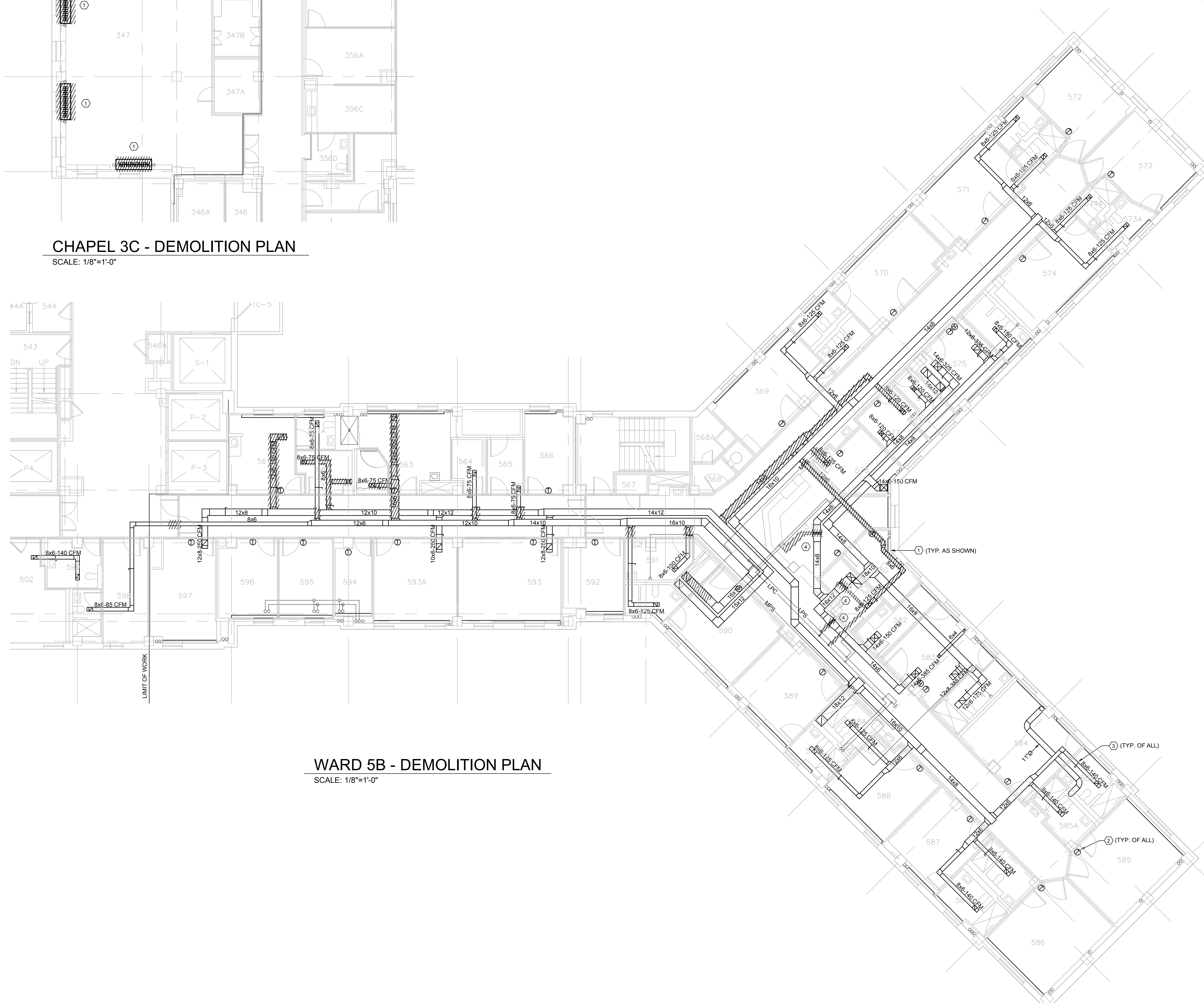
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
LEGENDS, GENERAL NOTES AND ABBREVIATIONS

SHEET IDENTIFICATION
M-001



CHAPEL 3C - DEMOLITION PLAN

SCALE: 1/8"=1'-0"



WARD 5B - DEMOLITION PLAN

SCALE: 1/8"=1'-0"

3RD FLOOR DEMOLITION NOTES

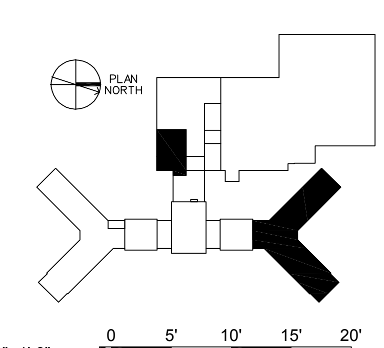
1. REMOVE AND DISPOSE EXISTING STEAM RADIATOR AND COVER. CAP STEAM PIPING TO FACILITATE INSTALLATION OF NEW EQUIPMENT

5TH FLOOR DEMOLITION NOTES

1. REMOVE AND DISPOSE OF EXISTING DUCTWORK, DAMPERS, GRILLES, HANGERS, ETC.
2. EXISTING STEAM BASEBOARD HEATING THERMOSTAT SHALL BE SET TO 55°F AFTER COMPLETION OF WORK.
3. LOCATE EXISTING VOLUME DAMPER AND TEST FUNCTIONALITY. REPAIR OR REPLACE DAMPER IF UNABLE TO BALANCE TO SPECIFIED AIRFLOW.
4. REMOVE EXISTING STEAM COIL. REMOVE STEAM PIPING BACK TO MAIN AND CAP.

NOTES

1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. NEGATIVE PRESSURE SHALL BE MAINTAINED AT ALL TIMES IN ROOMS 575 AND 583.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC in association with STV Incorporated

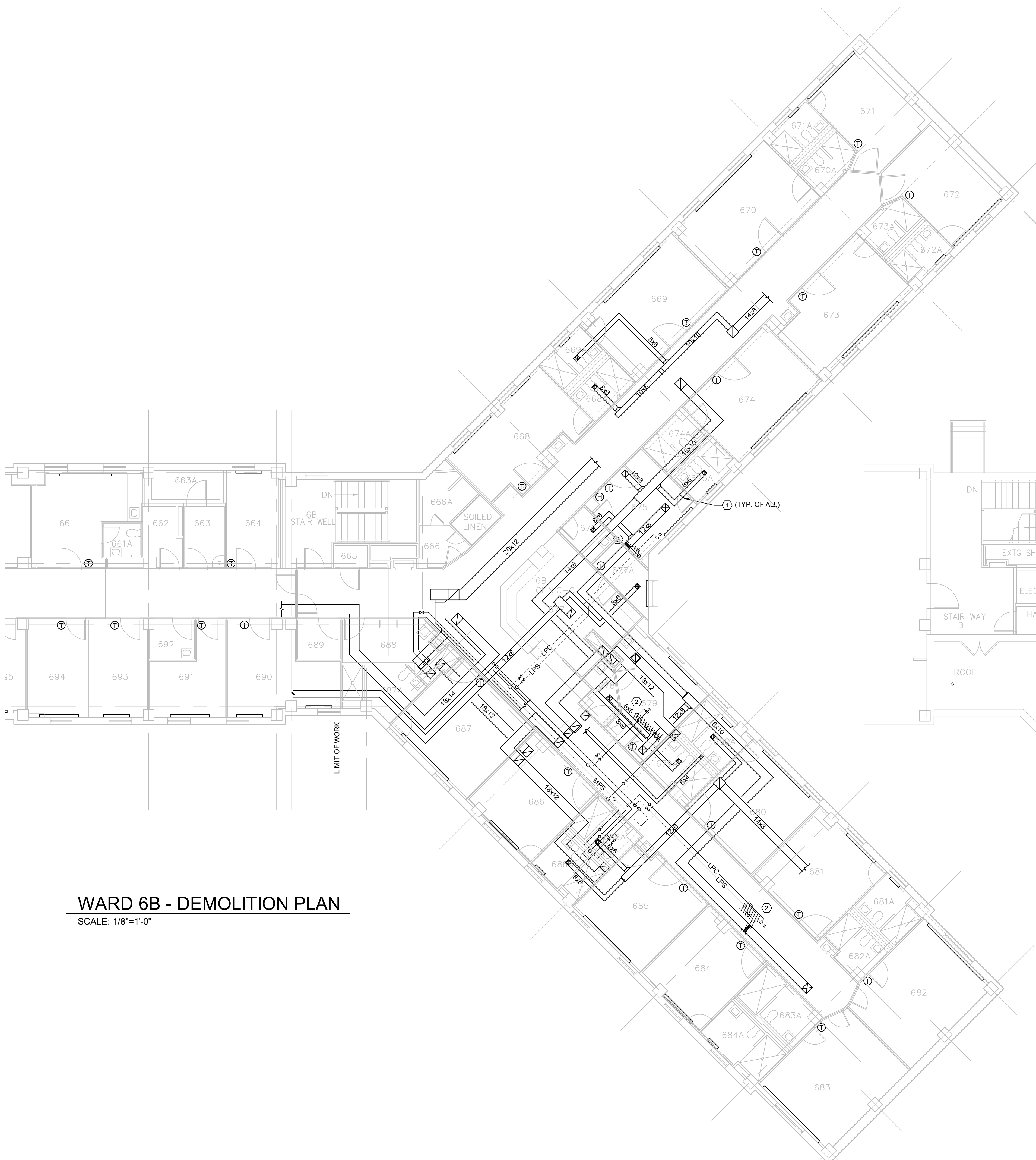
DESIGNED BY: EHW		DATE: APRIL 30, 2009
DWN BY: EHW	CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: MD-101.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

THIRD FLOOR 3C AND FIFTH FLOOR 5B - DEMOLITION PLANS

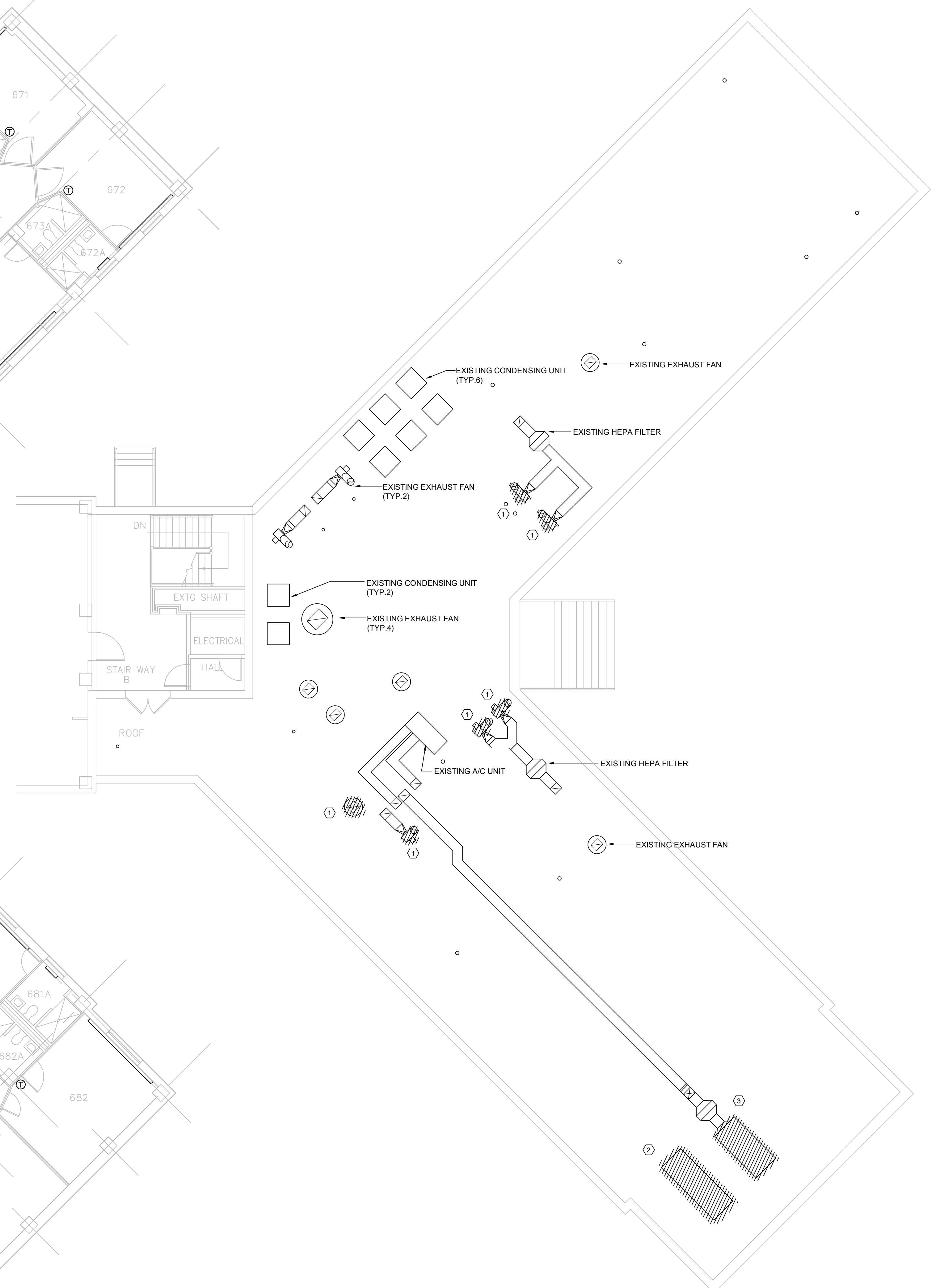
SHEET IDENTIFICATION

MD-101



WARD 6B - DEMOLITION PLAN

SCALE: 1/8"=1'-0"



ROOF WING B - DEMOLITION PLAN

SCALE: 1/8"=1'-0"

6TH FLOOR DEMOLITION NOTES

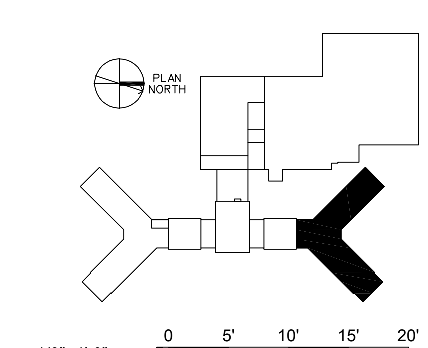
1. LOCATE EXISTING VOLUME DAMPER AND TEST FUNCTIONALITY. REPAIR OR REPLACE DAMPER IF UNABLE TO BALANCE TO SPECIFIED AIRFLOW.
2. REMOVE EXISTING STEAM COIL. REMOVE STEAM PIPING BACK TO MAIN

ROOF DEMOLITION NOTES

1. REMOVE AND DISPOSE EXISTING EXHAUST FAN AND ASSOCIATED MOTORIZED DAMPER
2. REMOVE AND DISPOSE EXISTING CONDENSING UNIT AND ASSOCIATED PIPING, ELECTRICAL, ETC. EQUIPMENT PAD SHALL REMAIN TO BE REUSED FOR NEW MAKE-UP AIR UNIT
3. REMOVE AND DISPOSE EXISTING MAKE-UP AIR UNIT AND ASSOCIATED PIPING

NOTES

1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. NEGATIVE PRESSURE SHALL BE MAINTAINED AT ALL TIMES IN ROOMS 675 AND 679.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: EHW	DATE: APRIL 30, 2009
DWN BY: EHW / CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN	VA PROJECT NO.: VA-650-07-115
FILE NAME: MD-102.DWG	DRAWING CODE: -
SIZE: ANSI E / PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

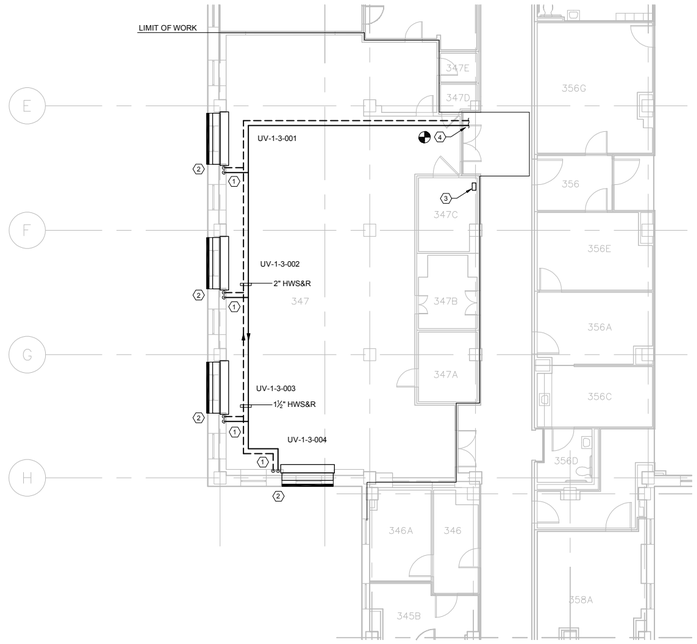
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

SIXTH FLOOR 6B AND ROOF
WING B - DEMOLITION PLANS

SHEET IDENTIFICATION

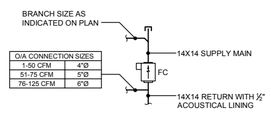
MD-102

SHEET 15 OF 34



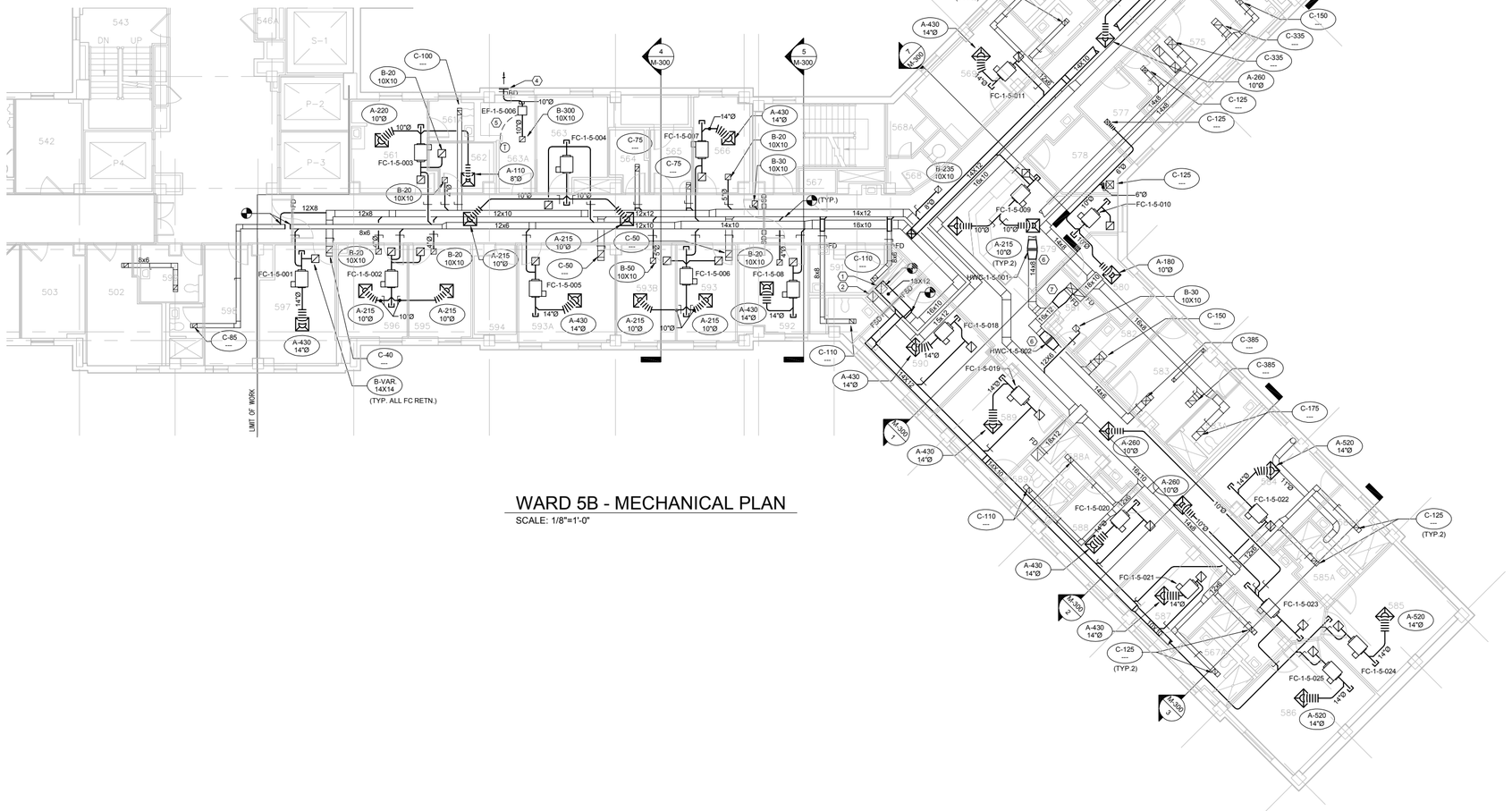
CHAPEL 3C - MECHANICAL PLAN

SCALE: 1/8"=1'-0"



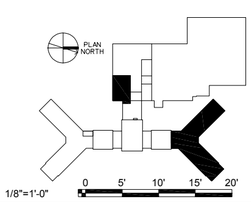
TYPICAL FAN COIL DUCT SIZES

NOT TO SCALE



WARD 5B - MECHANICAL PLAN

SCALE: 1/8"=1'-0"



3RD FLOOR KEY NOTES

1. ¾" HWS&R DOWN CHASE TO UNIT VENTILATOR
2. CUT NEW MASONRY OPENING AND PROVIDE 28" x 84" LOUVER
3. METASYS CONTROL PANEL LOCATION
4. CONNECT 2" HWS&R TO EXISTING HWS&R IN CORRIDOR. CONFIRM EXACT LOCATION IN FIELD.

5TH FLOOR KEY NOTES

1. EXISTING 16X10 MAKE-UP AIR DUCT UP TO MAU-1-R-001. TEST FIRE DAMPER(S) AND REPLACE IF DYSFUNCTIONAL
2. EXISTING 15X12 EXHAUST AIR DUCT UP TO EXHAUST FAN ON ROOF. TEST FIRE DAMPER(S) AND REPLACE IF DYSFUNCTIONAL
3. LOCATE EXISTING VOLUME DAMPER AND TEST FUNCTIONALITY. REPAIR OR REPLACE DAMPER IF UNABLE TO BALANCE TO SPECIFIED AIRFLOW.
4. PROVIDE 17X8 BRICK VENT, GREENHECK BVE OR EQUAL, WITH BIRD SCREEN AND BACKDRAFT DAMPER
5. IN-LINE EXHAUST FAN AND THERMOSTAT SET TO 80°F (ADJUSTABLE).
6. PROVIDE DUCT TRANSITIONS AS REQUIRED TO ACCOMMODATE HOT WATER COIL.
7. PROVIDE DUCTWORK TO MATCH EXISTING SIZE

NOTES

1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. INSTALLER MAY ADJUST LOCATION OF EQUIPMENT, DUCTWORK, GRILLES, ETC. AS REQUIRED TO AVOID EXISTING OBSTRUCTIONS.

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

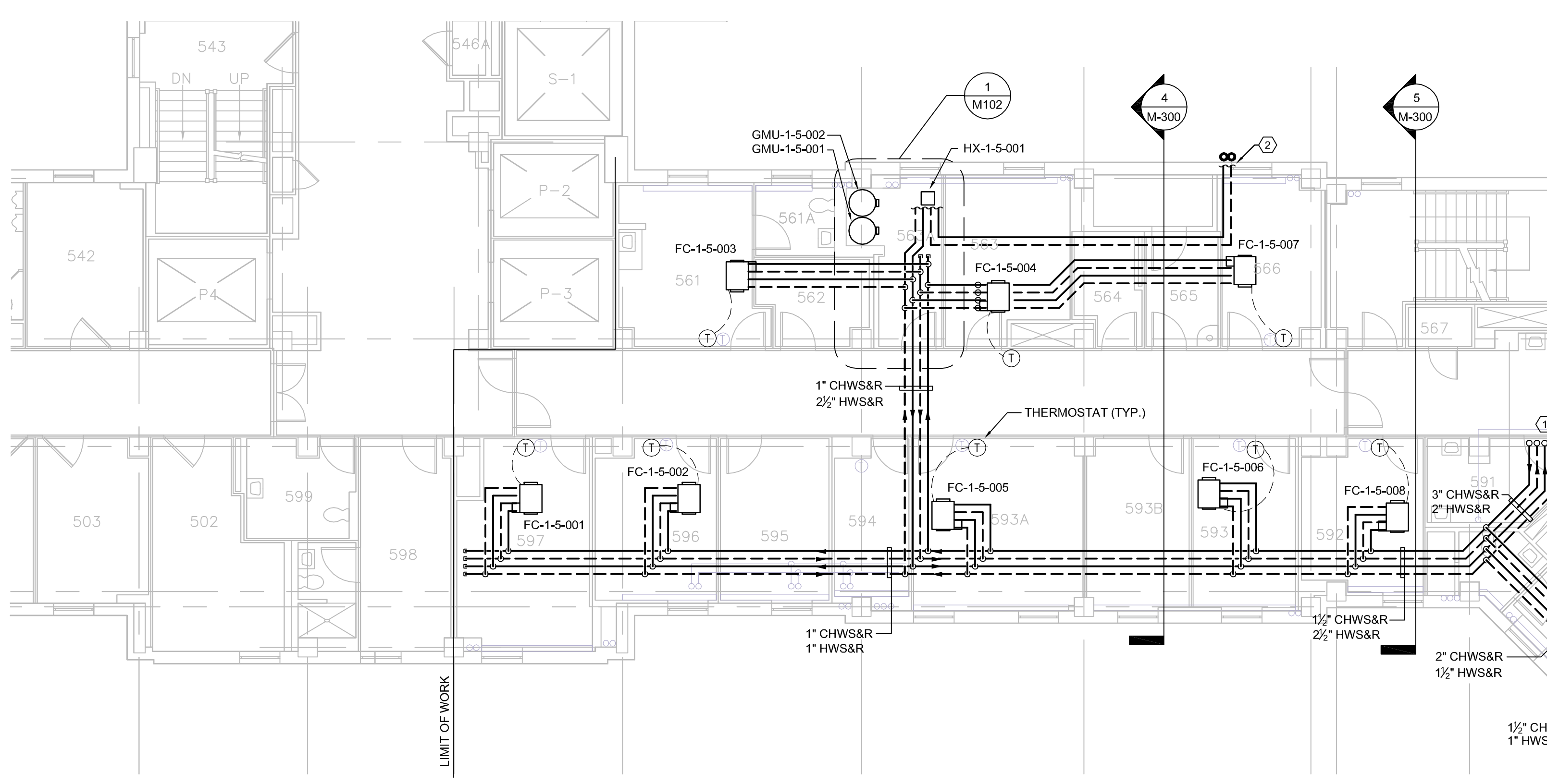
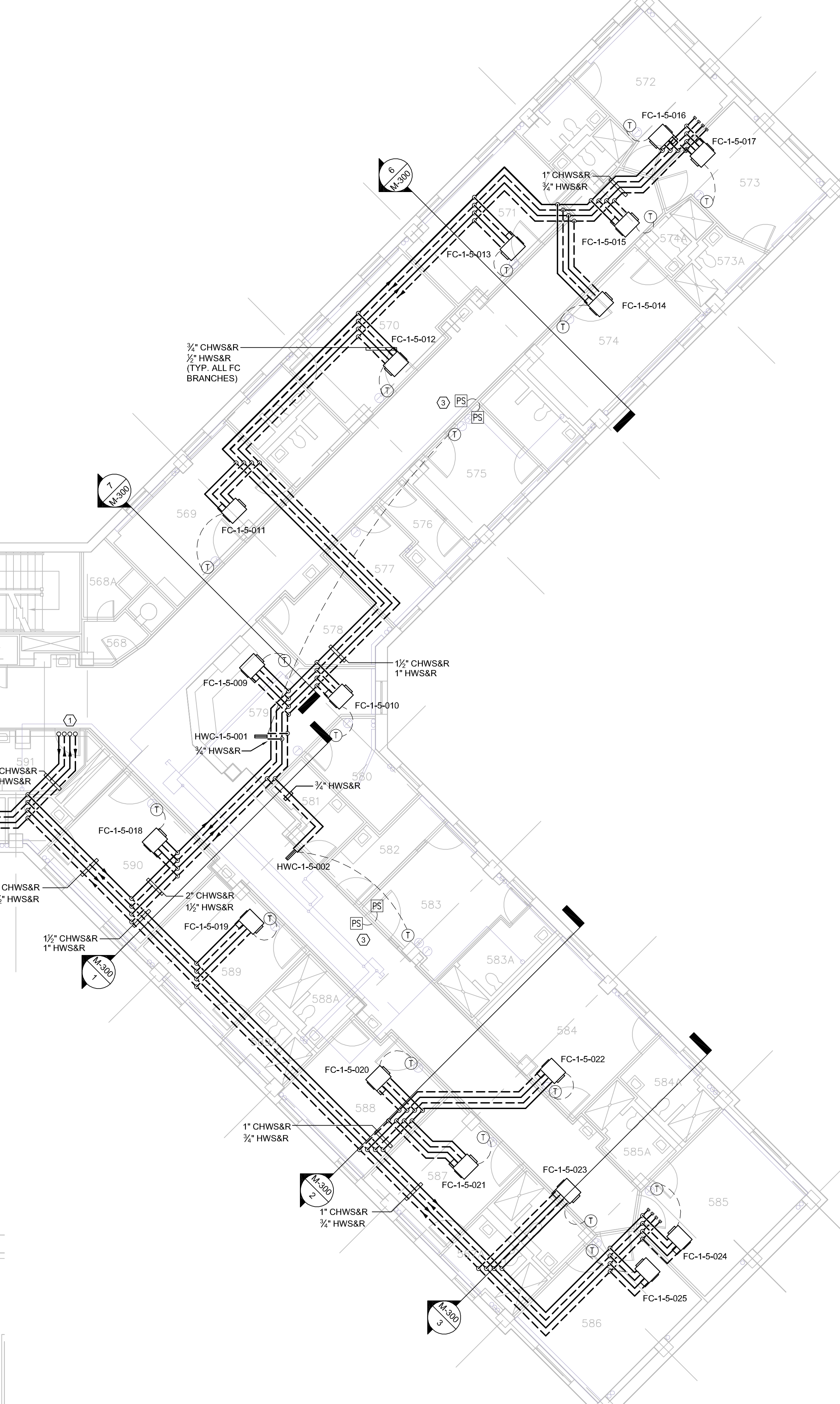
MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: EHW
DRAWN BY: EHW
CHECKED BY: P. CHEN
FILE NAME: M151.DWG
SIZE: ARCH D
PLOT SCALE: As noted
DATE: APRIL 30, 2009
SOLICITATION NO.: N/A
SUBMITTED BY: C & C Consulting Engineers, LLC in association with STV Incorporated
VA PROJECT NO.: VA-459-07-116
DRAWING CODE:
PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

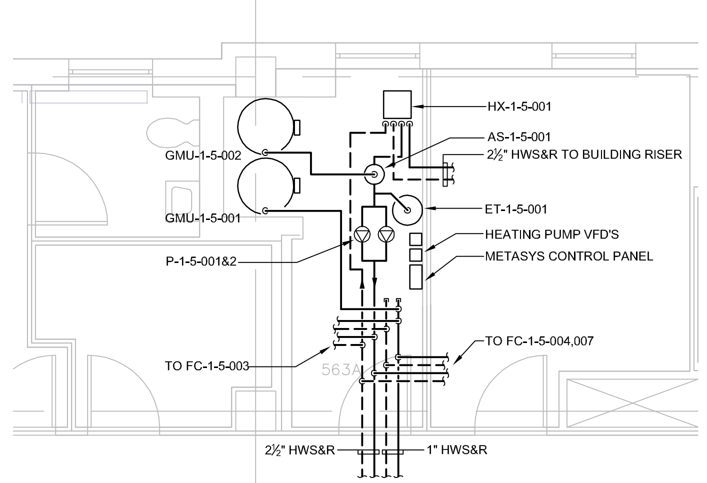
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
CHAPEL AND CHAPEL
REPAIR HVAC, PLUMBING AND CHAPEL
PROVIDENCE, RHODE ISLAND
THIRD FLOOR 3C AND FIFTH
FLOOR 5B - MECHANICAL PLANS

SHEET IDENTIFICATION
M-101
SHEET 16 OF 34

WARD 5B - MECHANICAL PIPING PLAN

SCALE: 1/8"=1'-0"



1 M102 WARD 5B MECHANICAL ROOM

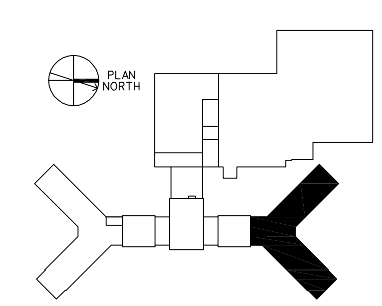
1/4" = 1'-0"

5TH FLOOR KEY NOTES

1. 3" CHWS&R UP, 2" HWS&R UP
2. CONNECT TO EXISTING HWS&R RISERS. COORDINATE EXACT LOCATION IN FIELD.
3. PROVIDE PRESSURE SENSORS TO MONITOR ISOLATION SUITE PRESSURE RELATIVE TO CORRIDOR

NOTES

1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. INSTALLER MAY ADJUST LOCATION OF EQUIPMENT, PIPING, ETC. AS REQUIRED TO AVOID EXISTING OBSTRUCTIONS.
3. THIS PLAN IS DIAGRAMMATIC AND IS NOT INTENDED TO SHOW THE EXACT RELATIONSHIP BETWEEN PIPING COMPONENTS. INSTALLER SHALL ARRANGE EQUIPMENT, PIPING AND ACCESSORIES SO AS NOT TO INTERFERE WITH FULL OPENING OF ACCESS DOORS AND CONTROL PANELS AND PROVIDE ADEQUATE MAINTENANCE ACCESS. REFER TO DETAILS AND PIPING DIAGRAMS FOR ADDITIONAL INFORMATION.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

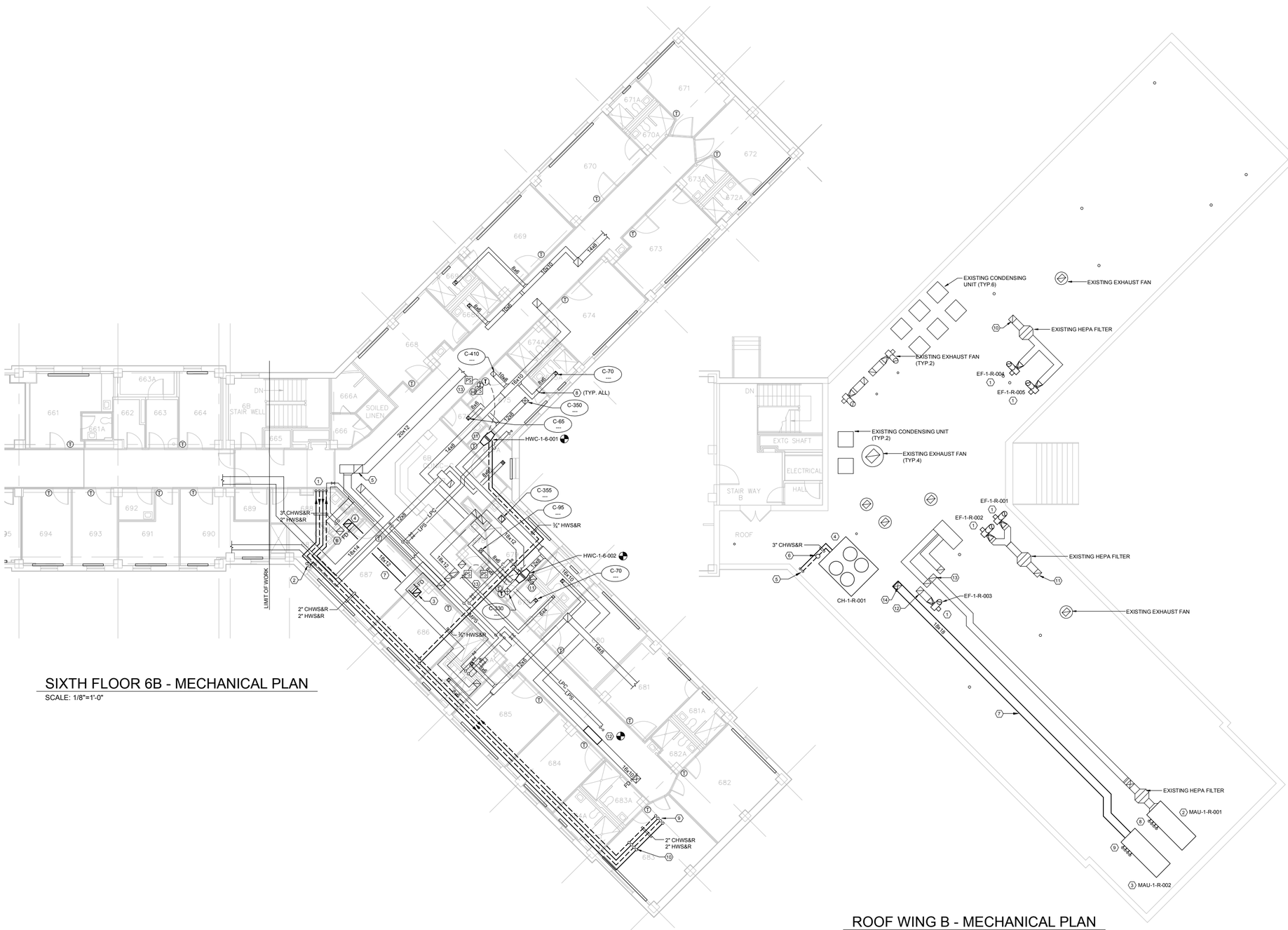
DESIGNED BY: EHW		DATE: APRIL 30, 2009
DWN BY: EHW	CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: M-102.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
FIFTH FLOOR 5B - MECHANICAL PIPING PLANS

SHEET IDENTIFICATION

M-102

SHEET 17 OF 34

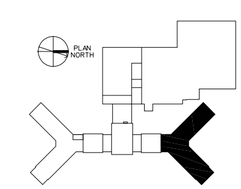


SIXTH FLOOR 6B - MECHANICAL PLAN

SCALE: 1/8"=1'-0"

ROOF WING B - MECHANICAL PLAN

SCALE: 1/8"=1'-0"



1/8"=1'-0" 0 5' 10' 15' 20'

6TH FLOOR KEY NOTES

1. 3" CHWS&R DN, 2" HWS&R DN
2. 3" CHWS&R UP
3. EXISTING 16X10 MAKE-UP AIR DUCT UP TO MAU-1-R-001
4. EXISTING MAKE-UP AIR DUCT DOWN. TEST EXISTING FIRE DAMPER(S) AND REPLACE IF DYSFUNCTIONAL
5. EXISTING EXHAUST AIR DUCT UP. TEST EXISTING FIRE DAMPER(S) AND REPLACE IF DYSFUNCTIONAL
6. EXISTING EXHAUST AIR DUCT DOWN. TEST FIRE DAMPER(S) AND REPLACE IF DYSFUNCTIONAL
7. INSULATE EXISTING DUCT
8. LOCATE EXISTING VOLUME DAMPER AND TEST FUNCTIONALITY. REPAIR, REPLACE, OR ADD DAMPER IF UNABLE TO BALANCE TO SPECIFIED AIRFLOW.
9. 2" CHWS&R, 2" HWS&R UP TO MAU-1-R-001
10. 2" CHWS&R, 2" HWS&R UP TO MAU-1-R-002
11. PROVIDE DUCT TRANSITIONS AS REQUIRED TO ACCOMMODATE HOT WATER COIL.
12. PROVIDE DUCTWORK TO MATCH EXISTING SIZE
13. PROVIDE PRESSURE SENSORS TO MONITOR ISOLATION SUITE PRESSURE RELATIVE TO CORRIDOR

ROOF KEY NOTES

1. NEW EXHAUST FAN TO REPLACE EXISTING. PROVIDE FITTINGS REQUIRED TO CONNECT TO EXISTING DUCTWORK. PROVIDE BACKDRAFT DAMPER
2. NEW MAKE-UP AIR UNIT TO REPLACE EXISTING. PROVIDE FITTINGS REQUIRED TO CONNECT TO EXISTING MAKE-UP AIR DUCTWORK.
3. NEW MAKE-UP AIR UNIT TO BE MOUNTED ON EXISTING ROOF CURB. PROVIDE STEEL DUNNAGE TO ALLOW INSTALLATION OF MAU ON EXISTING CURB. EXISTING EXHAUST DUCT SHALL SERVE AS NEW MAKE-UP AIR DUCT. PROVIDE DUCTWORK, FITTINGS AS REQUIRED TO CONNECT TO EXISTING DUCT.
4. AIR-COOLED CHILLER, ROOF CURB, PIPING CONNECTIONS.
5. 3" CHWS&R DN, 2" HWS&R DN
6. AIR SEPARATOR LOCATION
7. PROVIDE EXTERIOR GRADE DUCT INSULATION
8. 2" CHWS&R, 2" HWS&R DN
9. 2" CHWS&R, 2" HWS&R DN
10. EXISTING EXHAUST DUCT DOWN TO WARD 6B ISO. SUITES
11. EXISTING EXHAUST DUCT DOWN TO WARD 5B ISO. SUITES
12. EXISTING EXHAUST DUCT DOWN TO WARD 5B
13. EXISTING MAKE-UP AIR DUCT DOWN TO WARD 5B & 6B ISO. SUITES
14. EXISTING MAKE-UP AIR DUCT DOWN TO WARD 5B

NOTES

1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.
2. INSTALLER MAY ADJUST LOCATION OF EQUIPMENT, PIPING, ETC. AS REQUIRED TO AVOID EXISTING OBSTRUCTIONS.
3. SEE DWG A-501 FOR ROOF PENETRATION DETAILS.
4. ROOFING MATERIAL TO BE MANUFACTURED BY SARNIFIL AND INSTALLED BY A SARNIFIL APPROVED INSTALLER.
5. THIS PLAN IS DIAGRAMMATIC AND IS NOT INTENDED TO SHOW THE EXACT RELATIONSHIP BETWEEN PIPING COMPONENTS. INSTALLER SHALL ARRANGE EQUIPMENT, PIPING AND ACCESSORIES SO AS NOT TO INTERFERE WITH FULL OPENING OF ACCESS DOORS AND CONTROL PANELS AND PROVIDE ADEQUATE MAINTENANCE ACCESS. REFER TO DETAILS AND PIPING DIAGRAMS FOR ADDITIONAL INFORMATION.

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: EHM
DRAWN BY: MM
SUBMITTED BY: P. CHEN
M-103.DWG
SIZE: ANSI D

DATE: APRIL 30, 2009
ORD BY: MM
CHK BY: MM
SOLICITATION NO.: -
VA PROJECT NO: VA-66-07-115
DRAWING CODE: -
PLOT SCALE: 1.0000
PLOT DATE: APRIL 30 2009

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

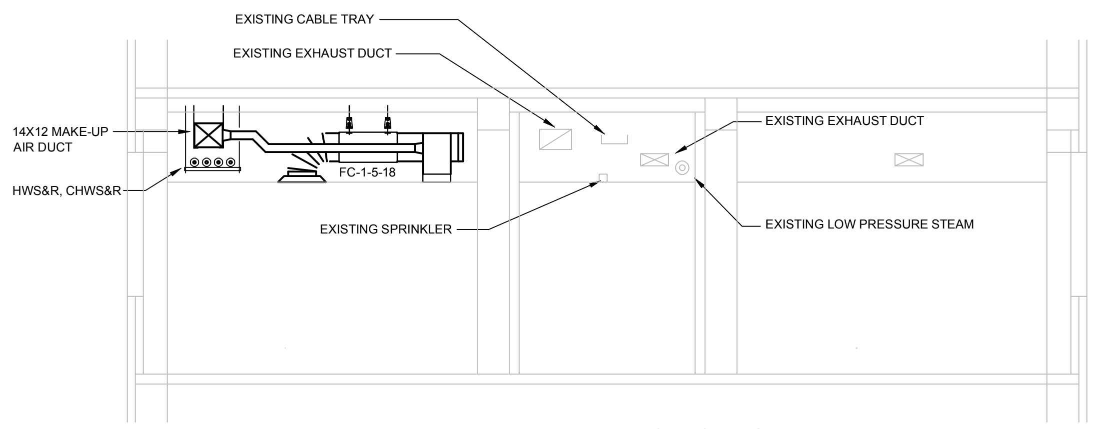
C & C Consulting Engineers, LLC in association with STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #8
REPAIR HVAC CHILLER SYSTEM AND CHAPEL
PROVIDENCE, RHODE ISLAND
SIXTH FLOOR 6B AND ROOF WING B - MECHANICAL PLANS

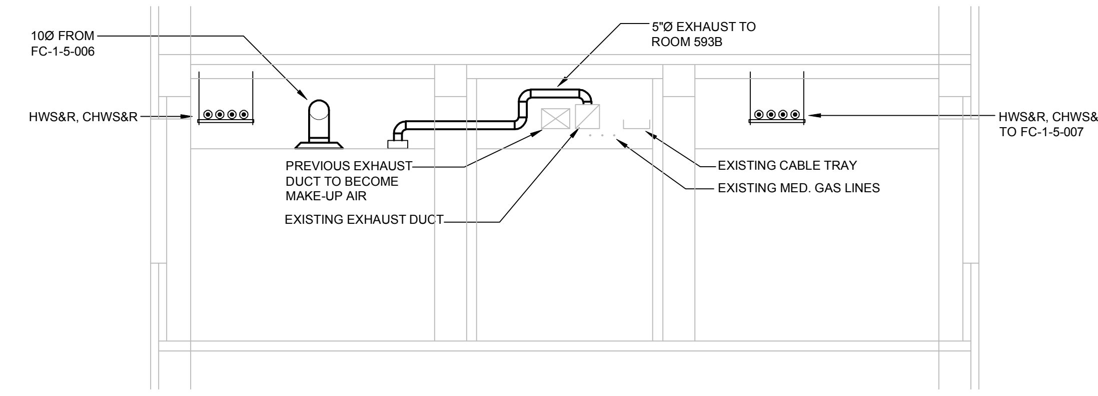
SHEET IDENTIFICATION
M-103
SHEET 18 OF 34

NOTES

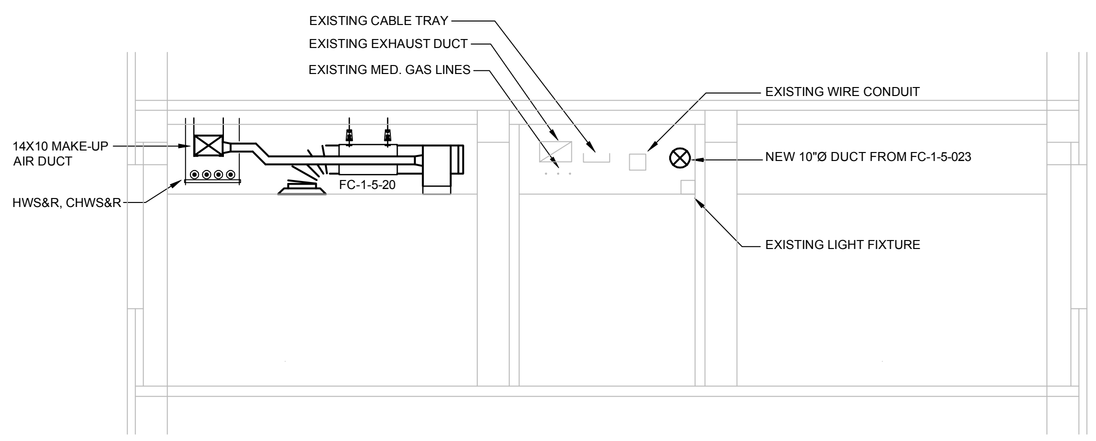
1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.



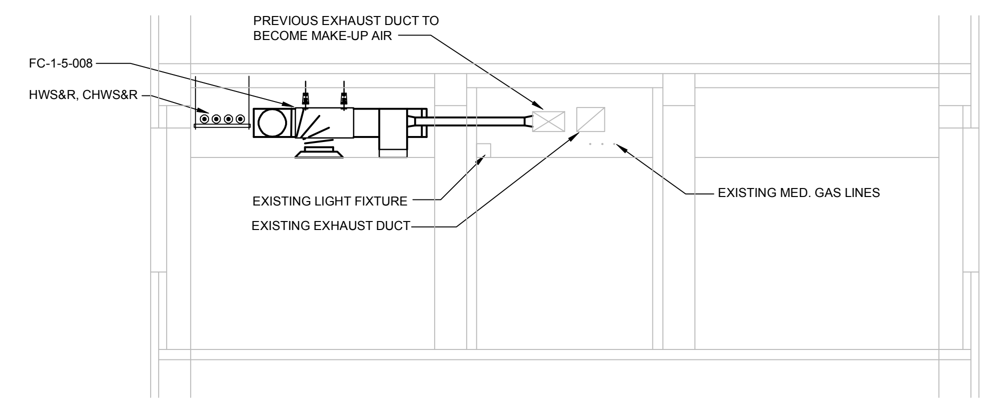
1 (M-101) WARD 5B - SECTION
1/4" = 1'-0"



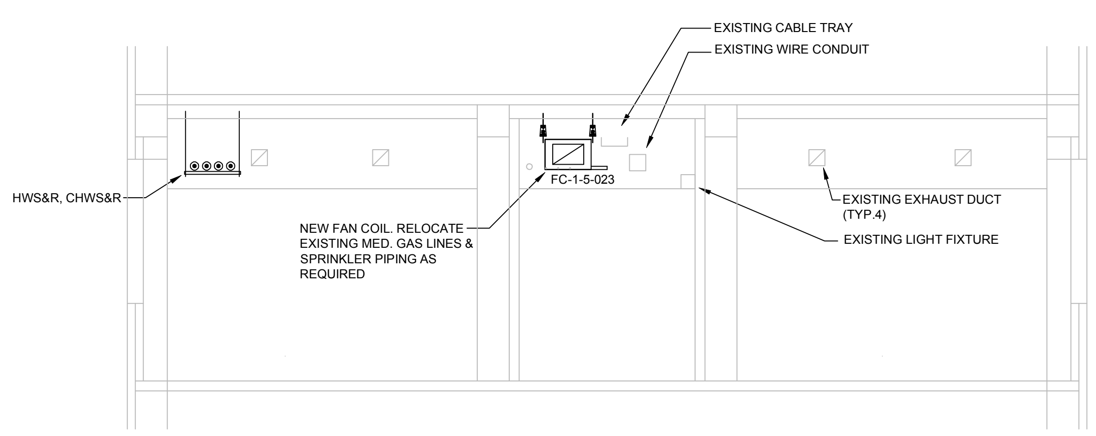
4 (M-101) WARD 5B - SECTION
1/4" = 1'-0"



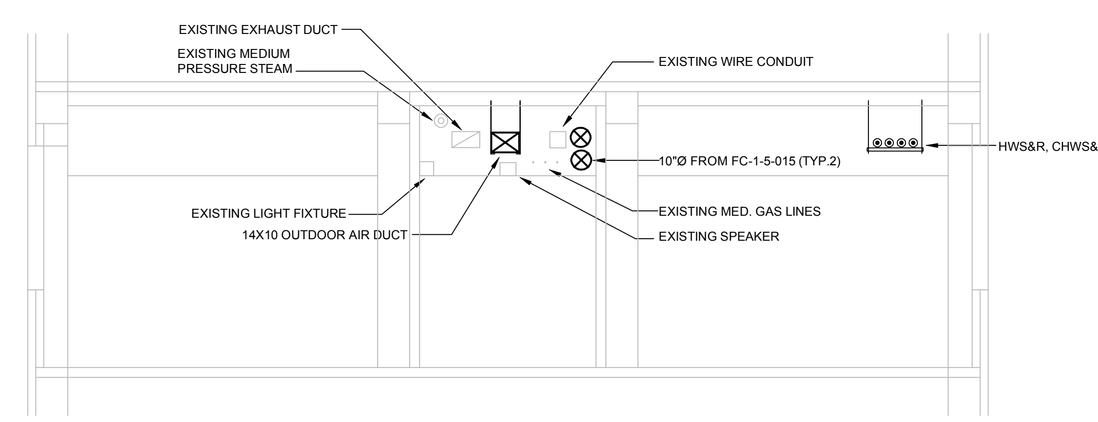
2 (M-101) WARD 5B - SECTION
1/4" = 1'-0"



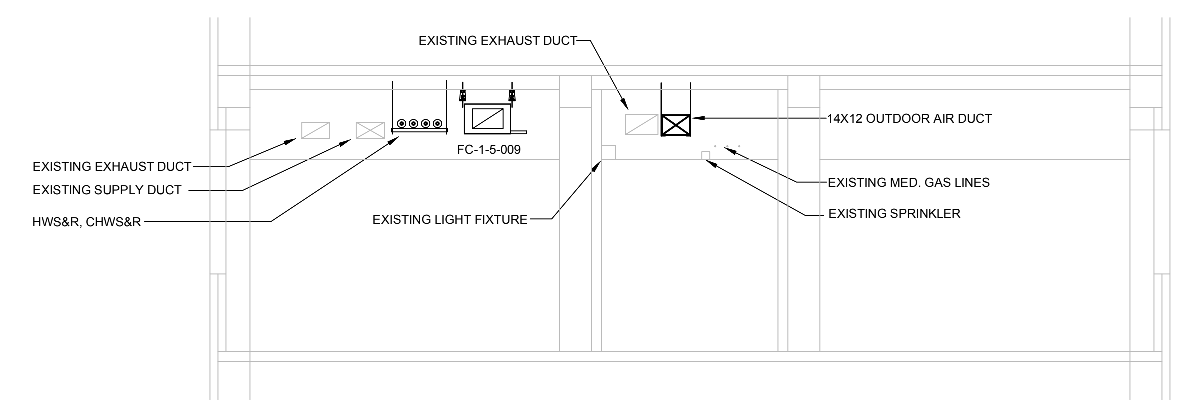
5 (M-101) WARD 5B - SECTION
1/4" = 1'-0"



3 (M-101) WARD 5B - SECTION
1/4" = 1'-0"



6 (M-101) WARD 5B - SECTION
1/4" = 1'-0"



7 (M-101) WARD 5B - SECTION
1/4" = 1'-0"

1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

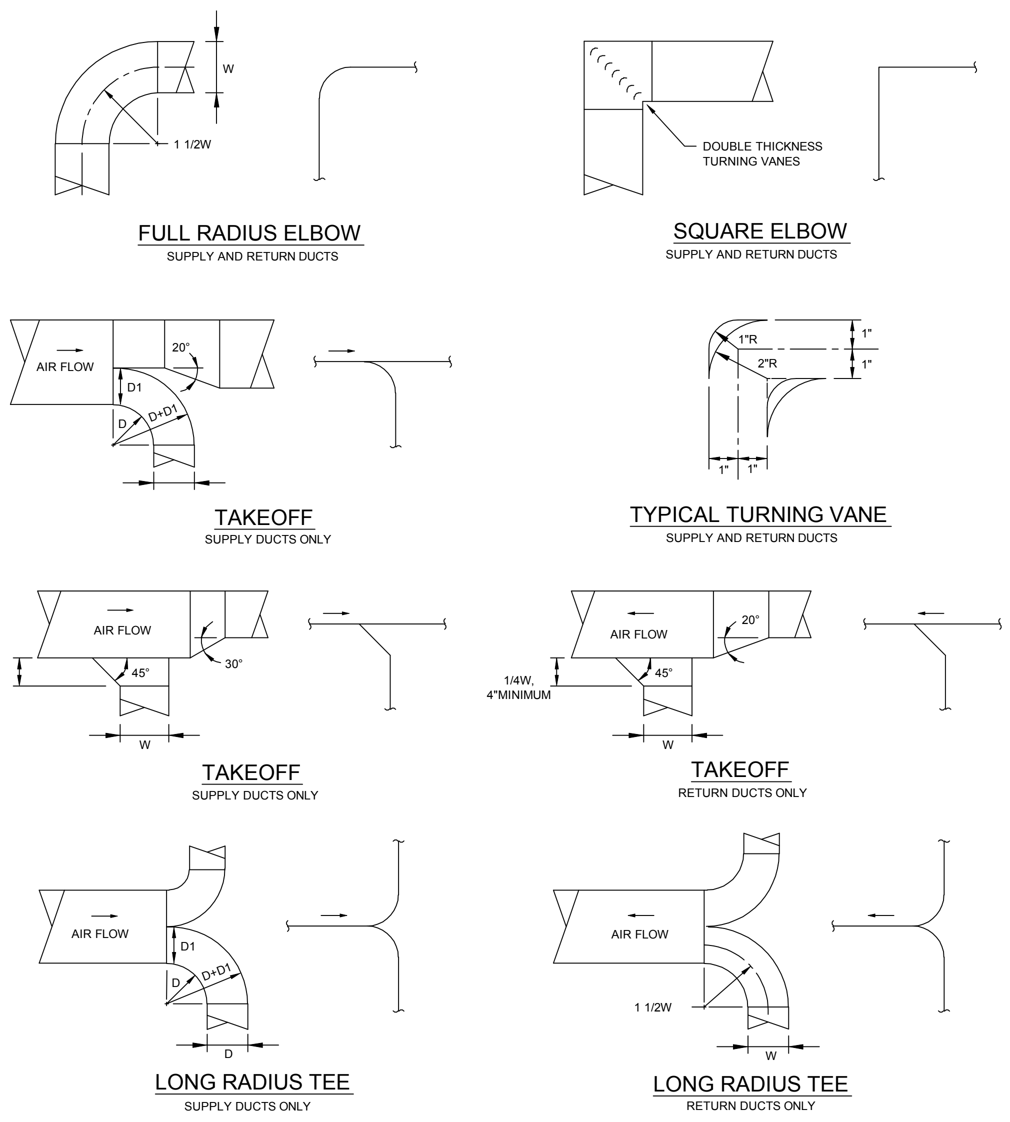
DESIGNED BY: EHW	DATE: APRIL 30, 2009
DWN BY: EHW / CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN	VA PROJECT NO.: VA-650-07-115
FILE NAME: M-301.DWG	DRAWING CODE: -
SIZE: ANSI E / PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

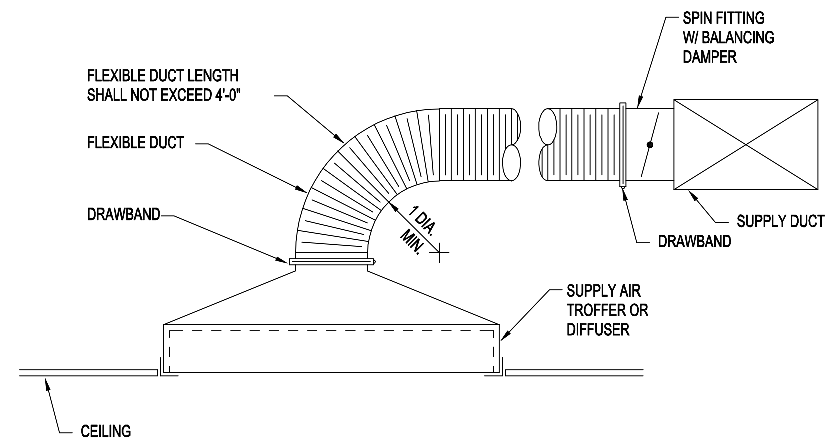
C & C Consulting Engineers, LLC
in association with
STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
FIFTH FLOOR 5B - SECTIONS

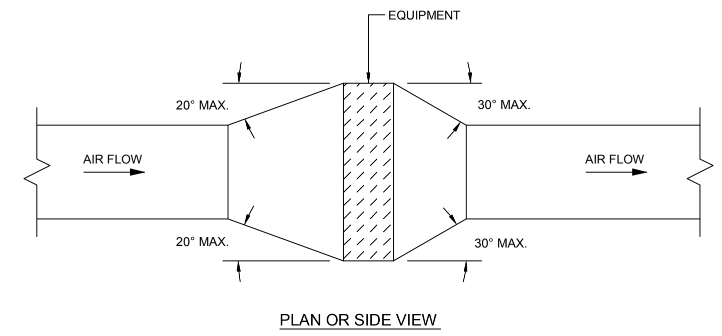
SHEET IDENTIFICATION
M-301
SHEET 19 OF 34



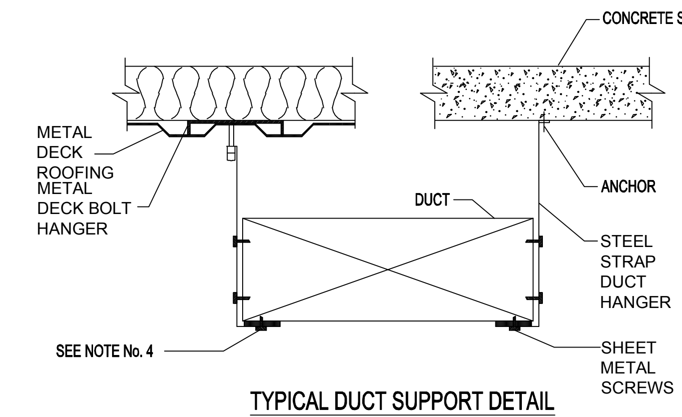
TYPICAL DUCT DETAILS WITH SINGLE LINE REPRESENTATION
NOT TO SCALE



FLEXIBLE DUCT CONNECTION DETAIL
NO SCALE



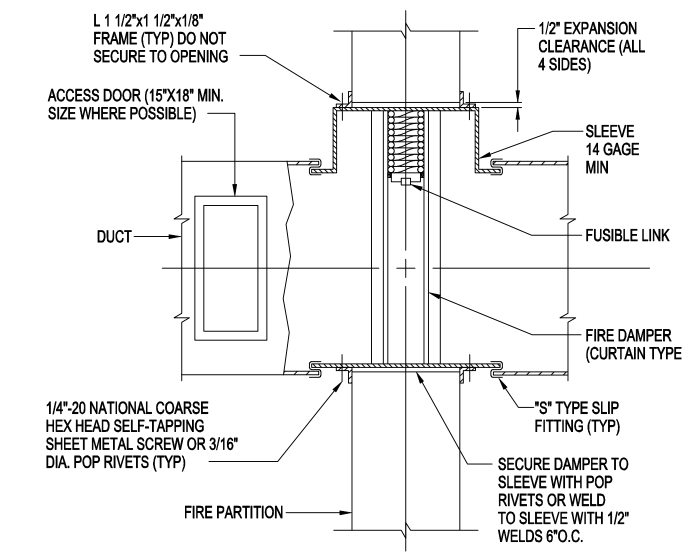
DUCT TRANSFORMATION WITH EQUIPMENT IN DUCT
NOT TO SCALE



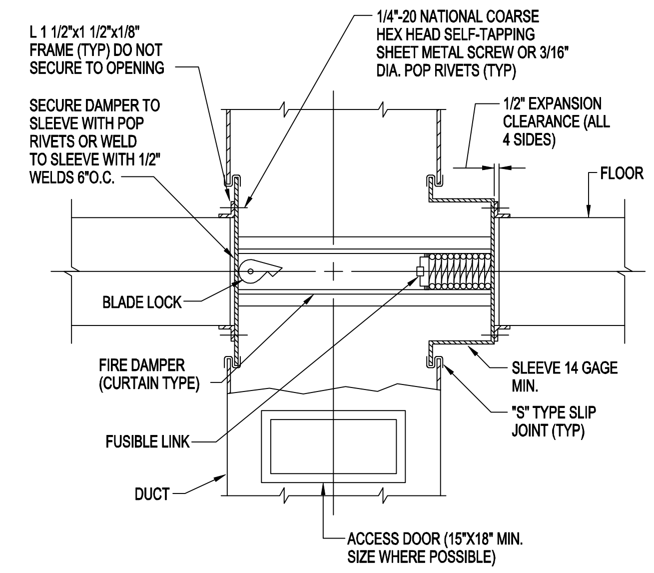
TYPICAL DUCT SUPPORT DETAIL
NOT TO SCALE

NOTES:

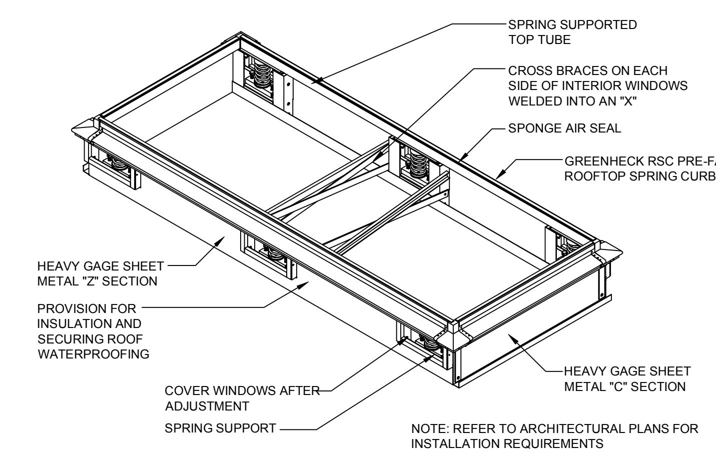
1. HANGER SPACING
   DUCT FACE AREA FROM 0 TO 4 SQ.FT. 96" ON CENTER MAX.
   DUCT FACE AREA FROM 4 TO 10 SQ.FT. 72" ON CENTER MAX.
   DUCT FACE AREA FROM 10 GREATER 48" ON CENTER MAX.
2. WHERE DUCTS ARE GREATER THAN 2 SQ.FT. IN FACE AREA, HANGERS SHALL BE SHEET METAL, NOT LESS THAN 11-GA. OR EQUIVALENT CROSS SECTIONAL AREA.
3. WHERE DUCTS ARE GREATER THAN 8 SQ.FT. IN FACE AREA, THEY SHALL BE BRACED BY 1" x 1" x 1/8" ANGLES ALL AROUND, SPACED NO MORE THAN 4-FT. ON CENTER.
4. WHERE DUCTS ARE OVER 48" WIDE, THE HANGERS SHALL BE BROUGHT DOWN UNDER THE DUCT SIDES 4" AND FASTENED TO THE DUCT BOTTOM AS WELL AS TO THE SIDES.



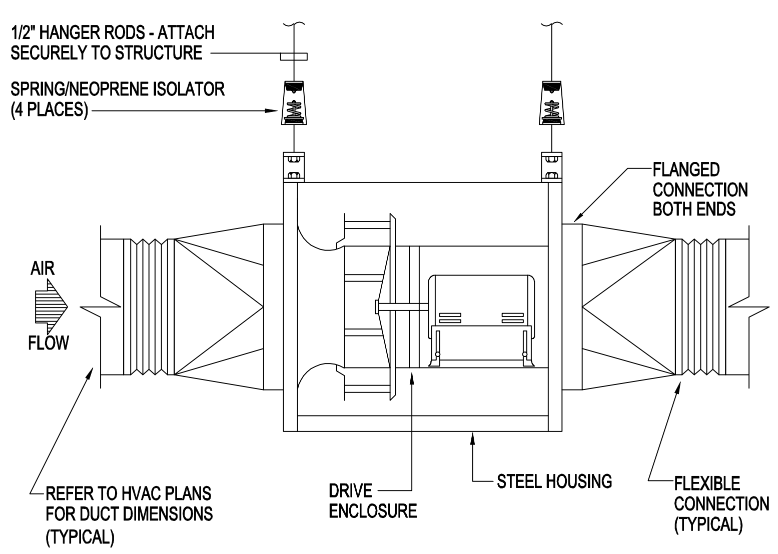
VERTICAL FIRE DAMPER DETAIL
NO SCALE



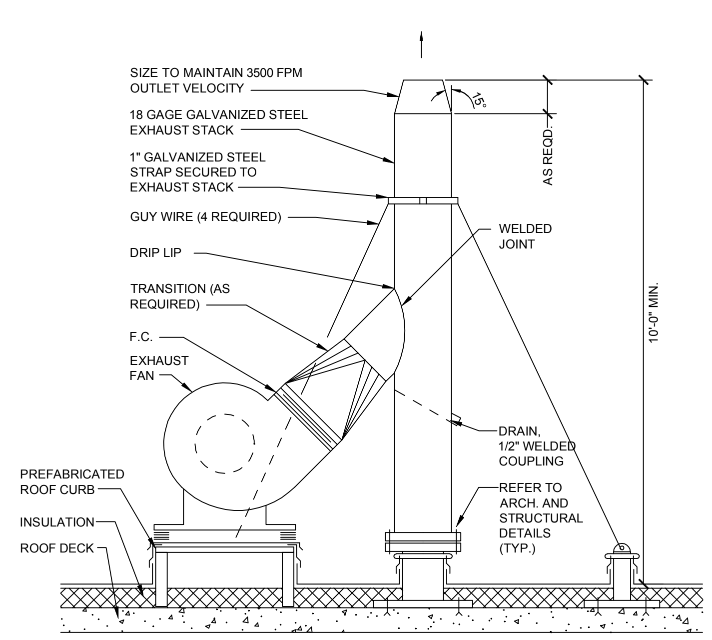
HORIZONTAL FIRE DAMPER DETAIL
NO SCALE



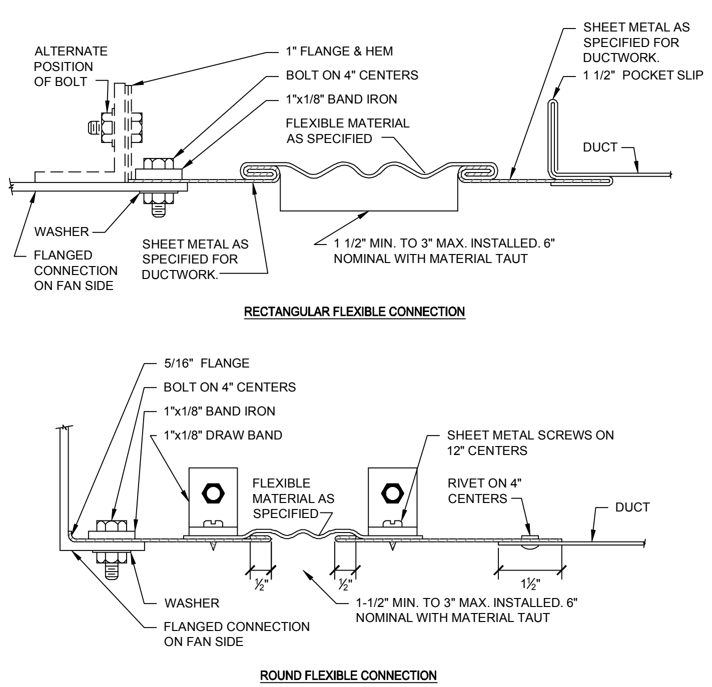
CHILLER CURB DETAIL
NOT TO SCALE



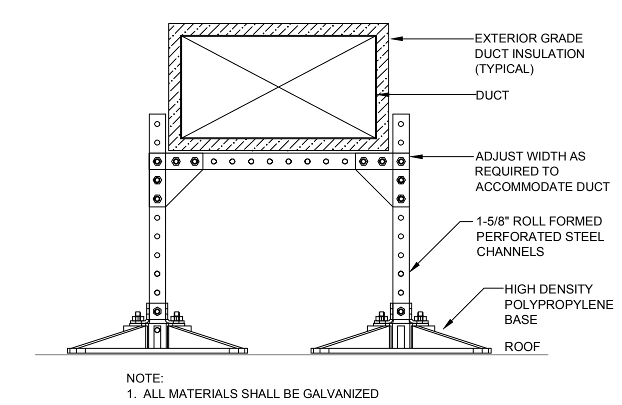
INLINE FAN DETAIL
NO SCALE



EXHAUST FAN STACK DETAIL
NOT TO SCALE

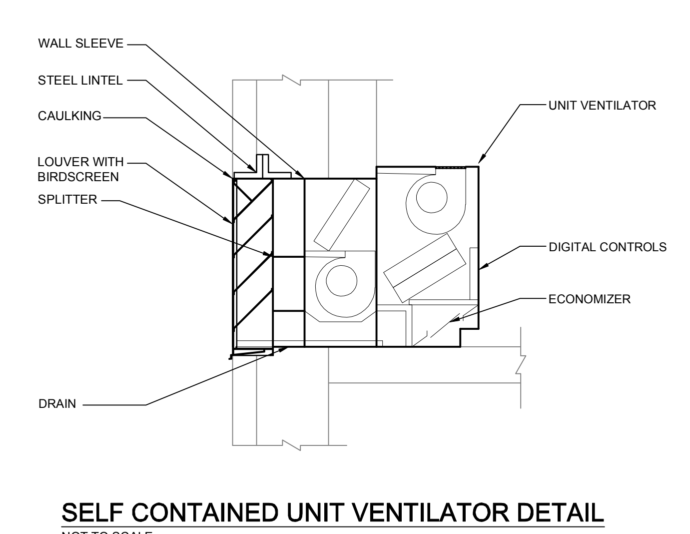


RECTANGULAR AND ROUND FLEX CONNECTION DETAILS
NOT TO SCALE



NOTE:
1. ALL MATERIALS SHALL BE GALVANIZED

ROOFTOP DUCT SUPPORT DETAIL
NOT TO SCALE



SELF CONTAINED UNIT VENTILATOR DETAIL
NOT TO SCALE

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

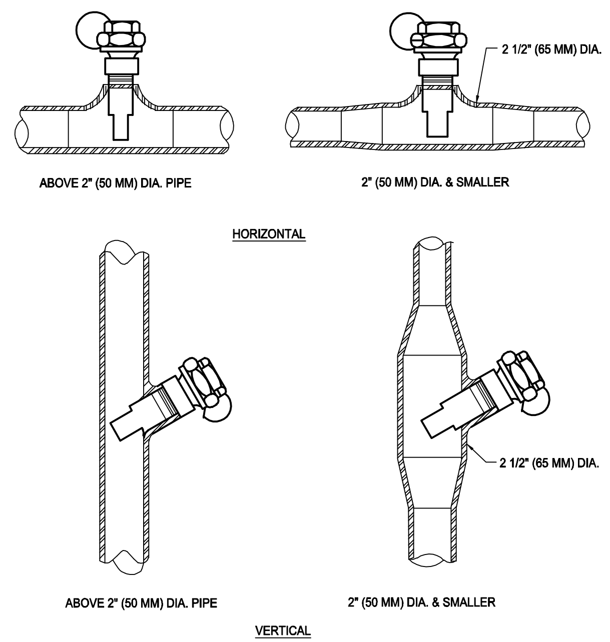
US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

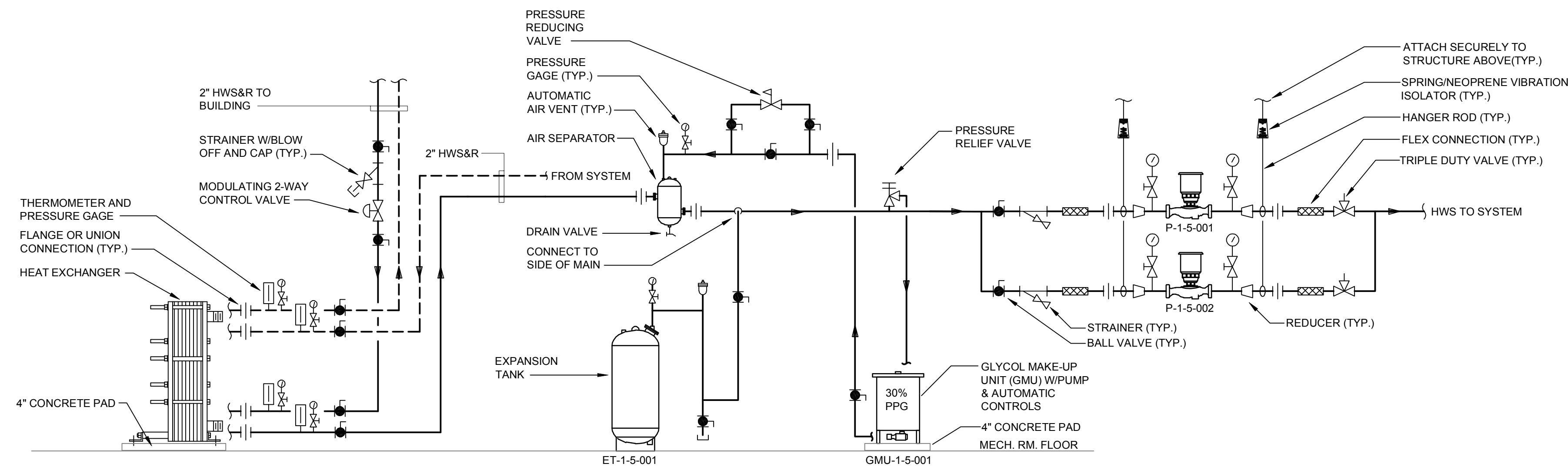
DESIGNED BY: EHW | DWN BY: EHW | CKD BY: ADA | SUBMITTED BY: P. CHEN | FILE NAME: M-501.DWG | SIZE: ANSI E | PLOT SCALE: AS NOTED | DATE: APRIL 30, 2009 | SOLICITATION NO.: - | VA PROJECT NO.: VA-650-07-115 | DRAWING CODE: - | PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
MECHANICAL DETAILS

SHEET IDENTIFICATION
M-501
SHEET 20 OF 34

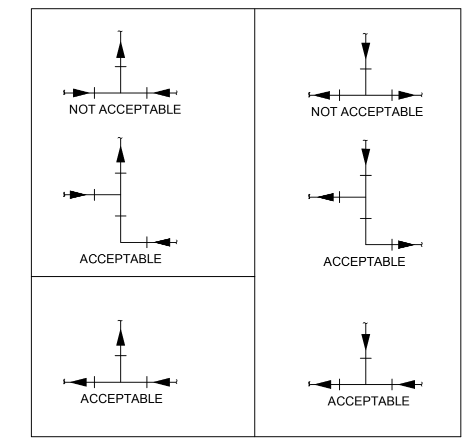


INSTALLATION OF THERMOMETER WELLS
NOT TO SCALE

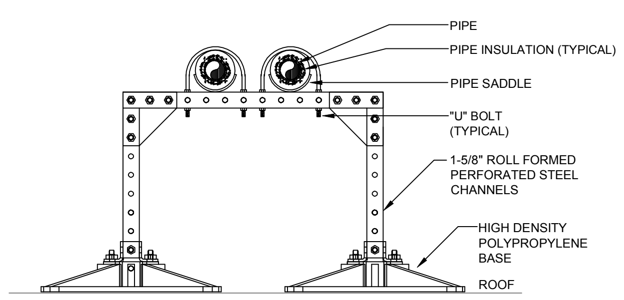


NOTES:
1. GLYCOL MAKE UP PIPING SYSTEM DOES NOT REQUIRE INSULATION.
2. SET REGULATING VALVE TO MAINTAIN MAKE-UP PRESSURE 15 PSIG ABOVE HIGHEST SYSTEM PRV SETTING.

5TH FLOOR HEATING SYSTEM PIPING DIAGRAM
NOT TO SCALE

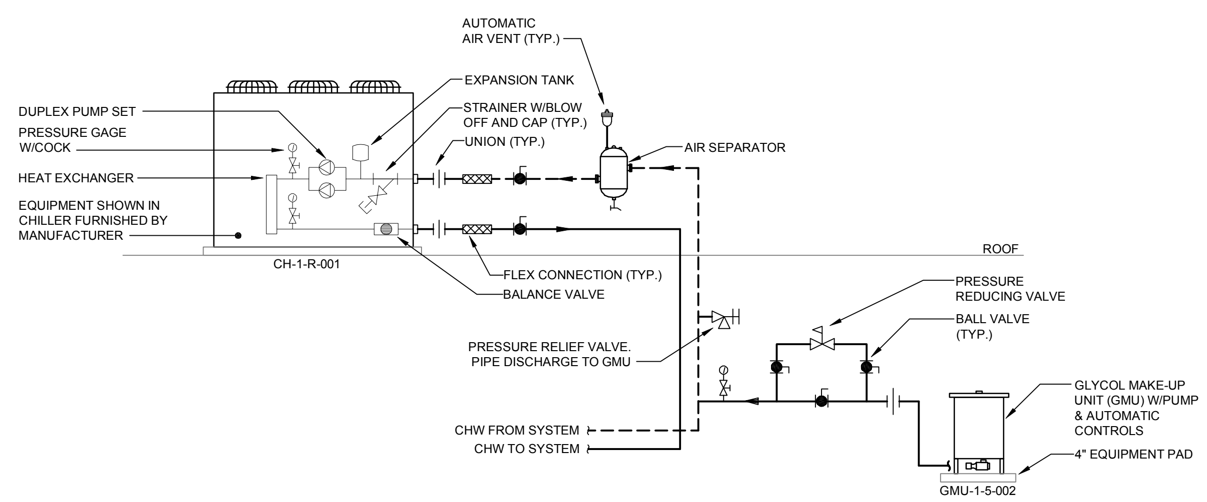


BULL HEAD TEE DETAIL
NOT TO SCALE

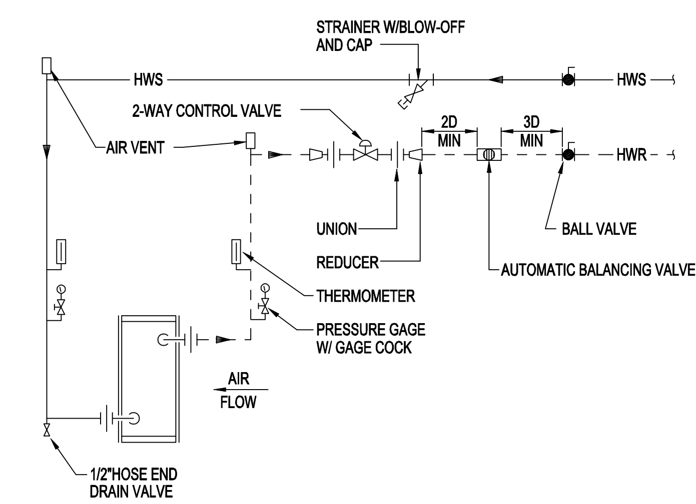


NOTE:
1. ALL MATERIALS SHALL BE GALVANIZED
2. "U" BOLTS & NUTS SHALL BE ZINC PLATED CARBON STEEL

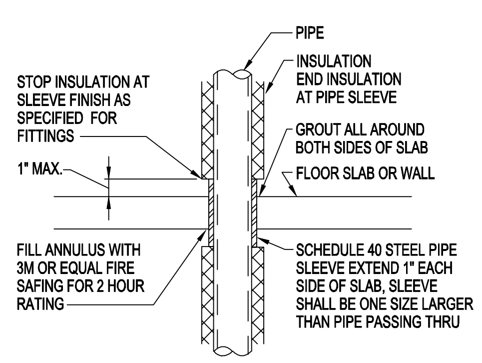
ROOFTOP PIPE SUPPORT DETAIL
NOT TO SCALE



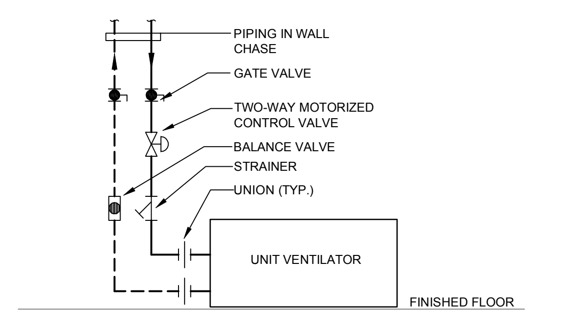
CHILLED WATER SYSTEM PIPING DIAGRAM
NOT TO SCALE



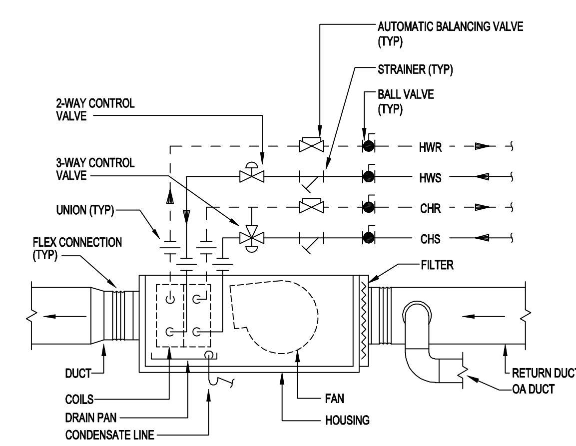
HEATING COIL PIPING DIAGRAM
NO SCALE



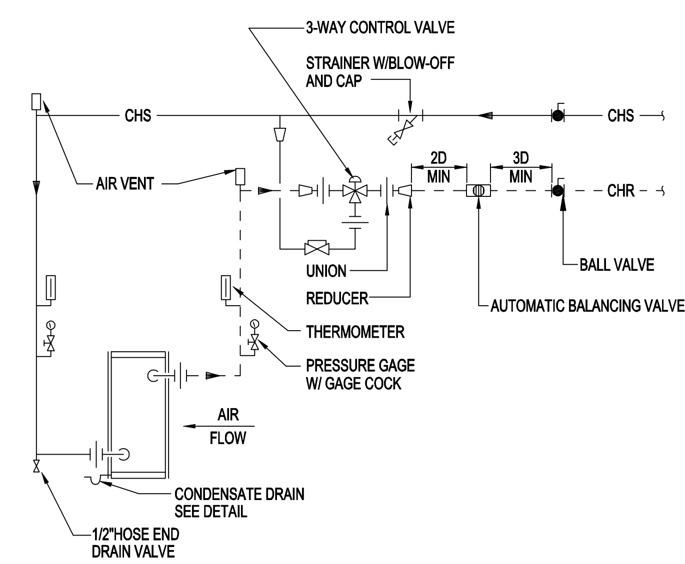
PIPING FLOOR & WALL PENETRATION DETAIL
NO SCALE



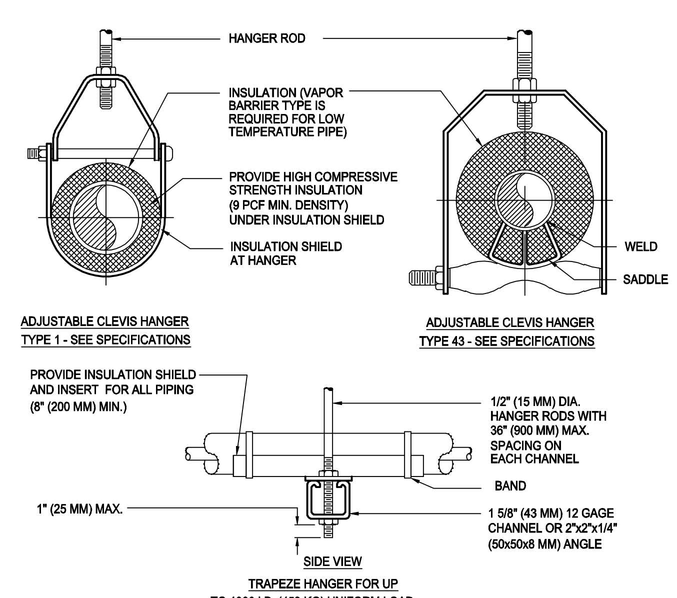
UNIT VENTILATOR PIPING DIAGRAM
NOT TO SCALE



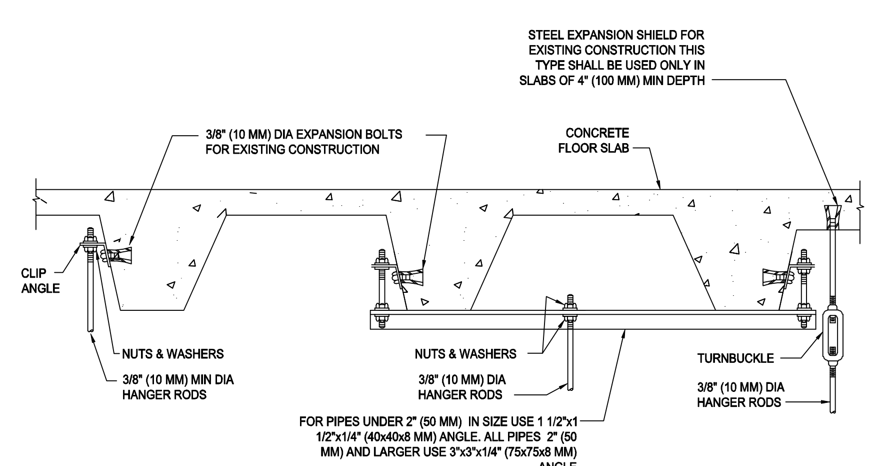
FAN COIL PIPING DIAGRAM
NOT TO SCALE



COOLING COIL PIPING DIAGRAM
NO SCALE

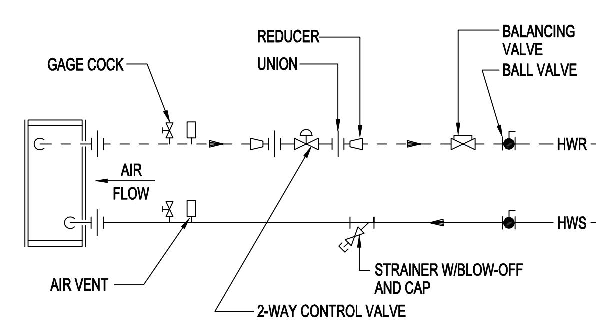


TYPICAL PIPE HANGERS
NOT TO SCALE



NOTES:
1. DRILLING OF ATTACHMENTS INTO BOTTOM OF BEAM OR SLAB SHALL NOT BE PERMITTED
2. EXPANSION BOLTS SHALL BE HILTI KWIK BOLT II EXPANSION ANCHOR, 3/8" DIA WITH 2 1/2" MIN EMBEDMENT, OR APPROVED EQUAL
3. SELECTED FRAMING ANGLES AND CLIP POSITIONS SUCH THAT LOAD ON EXPANSION ANCHOR DOES NOT EXCEED 500 LBS

TYPICAL METHOD OF SECURING HANGER RODS IN CONCRETE SLABS AND BEAMS
NOT TO SCALE



DUCT COIL PIPING DIAGRAM
NO SCALE

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

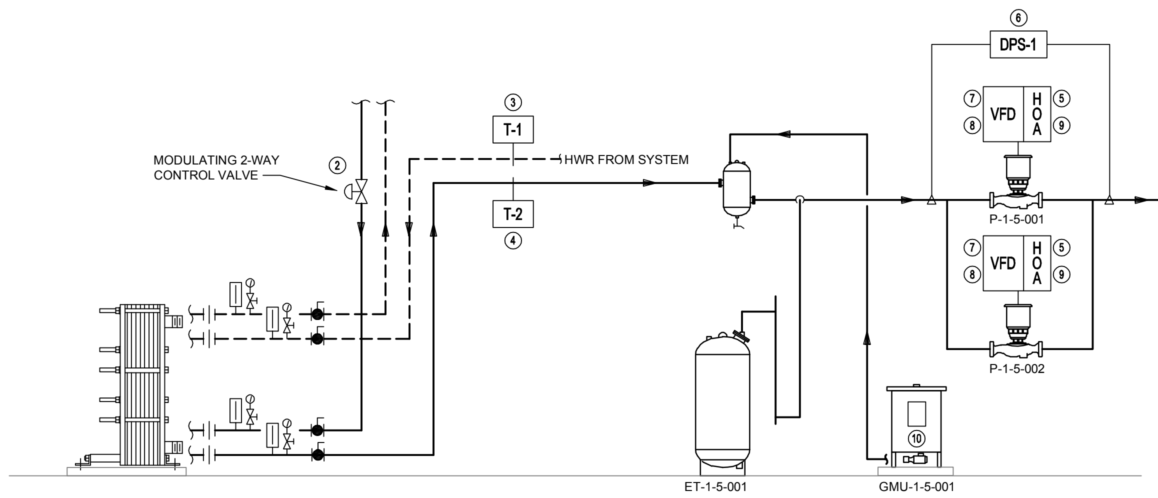
US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

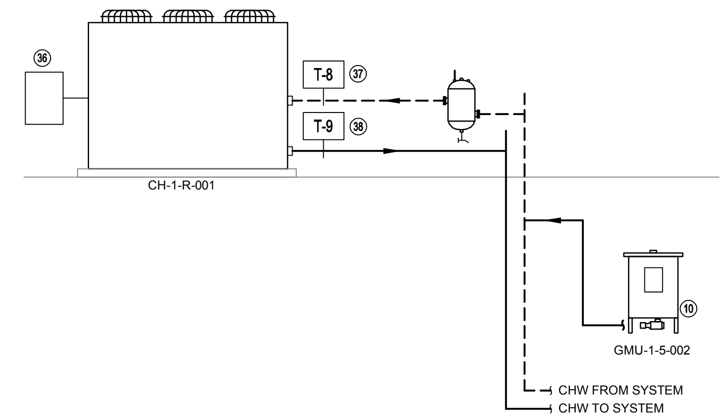
DESIGNED BY: EHW | DATE: APRIL 30, 2009
DWN BY: EHW | CKD BY: ADA | SOLICITATION NO.: -
SUBMITTED BY: P. CHEN | VA PROJECT NO.: VA-650-07-115
FILE NAME: M-502.DWG | DRAWING CODE: -
SIZE: ANSI E | PLOT SCALE: AS NOTED | PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
MECHANICAL DETAILS

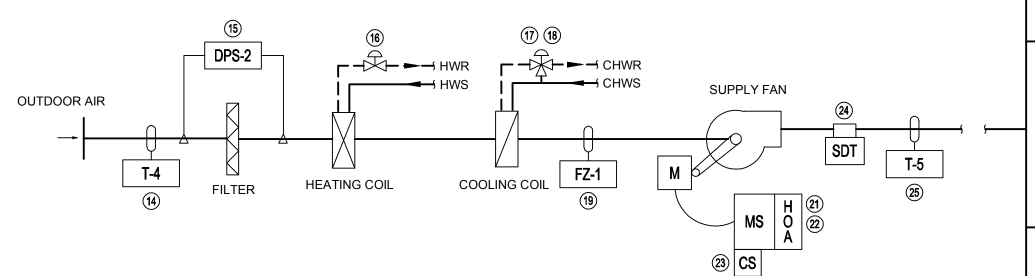
SHEET IDENTIFICATION
M-502
SHEET 21 OF 34



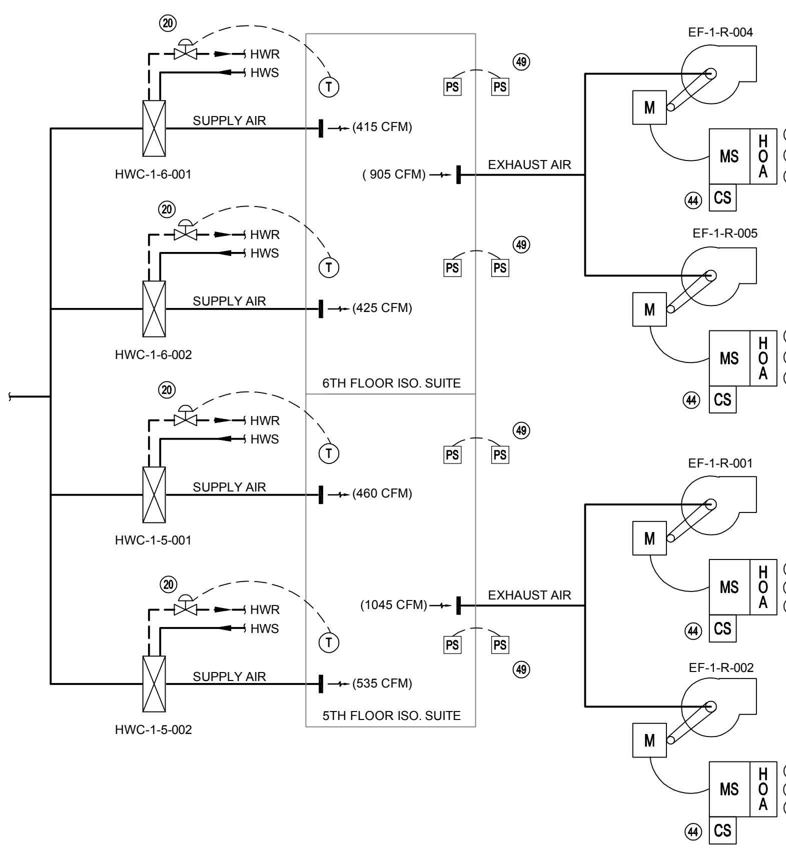
HEATING SYSTEM CONTROL DIAGRAM
NOT TO SCALE

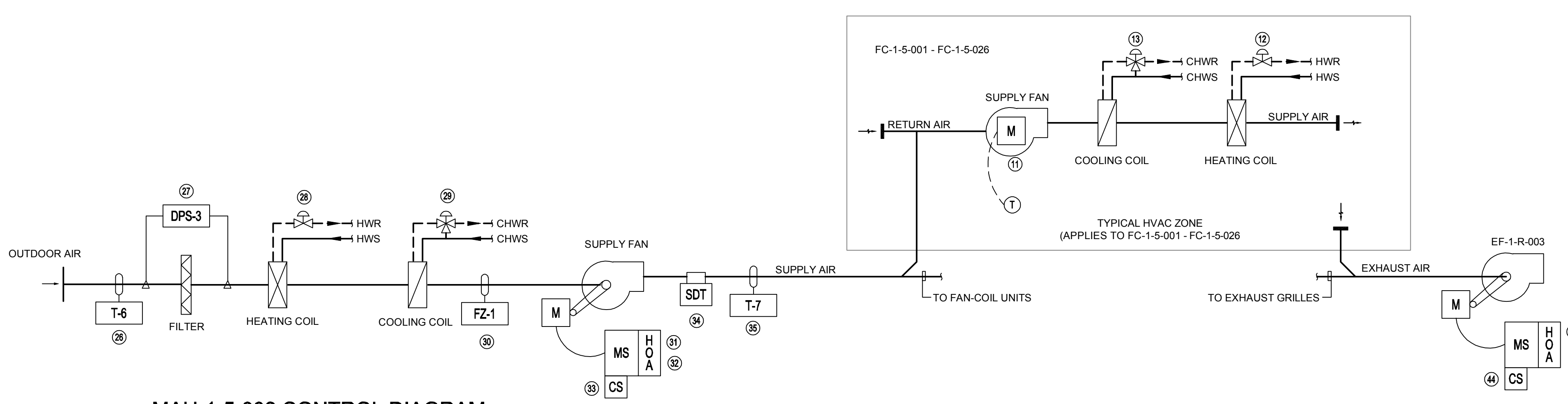


CHILLED WATER SYSTEM CONTROL DIAGRAM
NOT TO SCALE

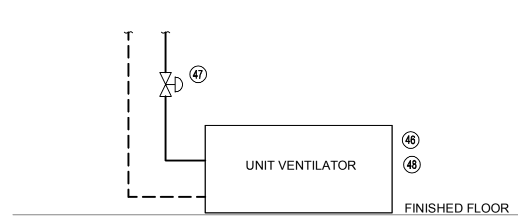


MAU-1-5-001 CONTROL DIAGRAM
NOT TO SCALE

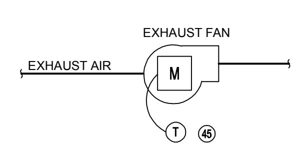




MAU-1-5-002 CONTROL DIAGRAM
NOT TO SCALE



TYPICAL UNIT VENTILATOR CONTROL DIAGRAM
NOT TO SCALE



EF-1-5-006 CONTROL DIAGRAM
NOT TO SCALE

SEQUENCE OF OPERATION

CONTRACTOR SHALL PROVIDE COMPLETE DDC AUTOMATIC TEMPERATURE CONTROL SYSTEM COMPATIBLE WITH EXISTING METASYS SYSTEM THAT ACCOMPLISHES THE SEQUENCE OF OPERATION AS INDICATED BELOW. FINAL CONNECTION TO EXISTING SYSTEM SHALL BE MADE BY COMPANY PRESENTLY MAINTAINING THE FACILITY MANAGEMENT CONTROL SYSTEM. CONTRACTOR SHALL CARRY THE COST OF THIS WORK IN THEIR BID. ALL SYSTEMS SHALL BE CONTROLLED FROM THE FACILITY MANAGEMENT SYSTEM.

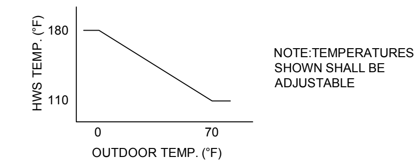
GENERAL NOTES

1. ALL DDC CONTROLS SHALL BE PROVIDED BY DDC CONTRACTOR AND BE BACNET METASYS CONTROLS BY JOHNSON CONTROLS
2. ALL CONTROLS SHALL HAVE OCCUPIED AND UNOCCUPIED FUNCTIONS
3. ALL SETPOINTS SHALL BE FULLY ADJUSTABLE
4. ALL MONITORED POINTS SHALL BE DISPLAYED AT THE DDC SYSTEM WORKSTATION(S). ALL SETPOINTS SHALL BE DISPLAYED AND ADJUSTABLE AT THE DDC SYSTEM WORKSTATION(S).
5. "COOLING MODE" SHALL BE DEFINED AS ANY TIME THE OUTSIDE AIR TEMPERATURE IS ABOVE 50°F (ADJUSTABLE) AND A CALL FOR COOLING EXISTS FROM ANY ASSOCIATED PIECE OF EQUIPMENT.
6. "HEATING MODE" SHALL BE DEFINED AS ANY TIME THE OUTSIDE AIR TEMPERATURE IS BELOW 68°F (ADJUSTABLE) AND A CALL FOR HEATING EXISTS FROM ANY ASSOCIATED PIECE OF EQUIPMENT.

HEAT EXCHANGER

(1) [RESERVED]

(2) MOTORIZED CONTROL VALVE SHALL MODULATE TO MAINTAIN 180°F DISCHARGE WATER TEMPERATURE AT TEMPERATURE SENSOR T-2. DISCHARGE WATER TEMPERATURE SHALL BE RESET BASED ON OUTDOOR TEMPERATURE AS FOLLOWS:



(3) TEMPERATURE SENSOR T-1 SHALL MONITOR HEATING HOT WATER RETURN TEMPERATURE

(4) TEMPERATURE SENSOR T-2 SHALL MONITOR HEATING HOT WATER SUPPLY TEMPERATURE

HEATING HOT WATER PUMPS

(5) DURING HEATING MODE, EITHER P-1 OR P-2 SHALL OPERATE CONTINUOUSLY. P-1 AND P-2 OPERATION SHALL ALTERNATE ON AN ADJUSTABLE, EQUAL RUNTIME BASIS. DDC SYSTEM SHALL DISPLAY CUMULATIVE RUN TIME OF EACH UNIT.

(6) DPS-1 SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS P-1, P-2.

(7) THE DDC SYSTEM SHALL CONTROL THE PUMP SPEED WITH A VFD DRIVE TO MAINTAIN A CONSTANT DIFFERENTIAL PRESSURE AT DPS-1. DIFFERENTIAL PRESSURE SETPOINT SHALL BE DETERMINED BY SYSTEM BALANCING.

(8) FOLLOWER SIGNAL SHALL PROVIDE FEEDBACK SIGNAL TO DDC SYSTEM TO INDICATE PUMP SPEED.

(9) WHEN "HAND-OFF-AUTO" SWITCH IS IN "HAND" POSITION THE PUMP SHALL OPERATE. IN "AUTO" POSITION THE PUMP SHALL BE CONTROLLED FROM THE DDC SYSTEM. IN "OFF" POSITION THE PUMP IS SHUT DOWN. IF A PUMP FAILS, THE SELECTED STANDBY PUMP SHALL START AUTOMATICALLY AND THE DDC SYSTEM SHALL GENERATE AN ALARM SIGNAL.

GLYCOL MAKE-UP UNIT

(10) THE GMU INTERNAL CONTROL PANEL SHALL OPERATE THE UNIT TO MAINTAIN SYSTEM PRESSURE. GMU LOW LEVEL SWITCH SHALL ACTIVATE AN ALARM SIGNAL THROUGH THE DDC SYSTEM.

FAN COIL UNITS

(11) FAN COIL SHALL BE CONTROLLED WITH LOCAL DDC FIELD CONTROLLER AND THERMOSTAT AS SHOWN ON PLANS. THERMOSTAT SHALL DISPLAY HEATING/COOLING MODE, OCCUPANCY MODE TEMPERATURE SETPOINT AND ROOM TEMPERATURE. MODES AND SETPOINTS SHALL BE ADJUSTABLE AT THE THERMOSTAT AND DDC WORKSTATION(S).

OCCUPIED MODE: FAN SHALL OPERATE CONTINUOUSLY. HEATING SETPOINT SHALL BE SET AT 68°F. COOLING SETPOINT SHALL BE SET AT 72°F.

UNOCCUPIED MODE: FAN SHALL OPERATE ONLY ON A CALL FOR HEATING OR COOLING. HEATING SETPOINT SHALL BE SET AT 60°F. COOLING SETPOINT SHALL BE SET AT 80°F.

SYSTEM SHALL MAINTAIN 4°F (ADJUSTABLE) DEAD BAND BETWEEN HEATING AND COOLING SETPOINTS AT ALL TIMES.

(12) ON A CALL FOR HEAT, THE MOTORIZED TWO-WAY CONTROL VALVE SHALL MODULATE TO MAINTAIN ROOM TEMPERATURE SETPOINT.

(13) ON A CALL FOR COOLING, THE MOTORIZED THREE-WAY VALVE SHALL MODULATE TO MAINTAIN ROOM TEMPERATURE SETPOINT.

MAU-1

(14) T-4 SHALL MONITOR ENTERING AIR TEMPERATURE

(15) DIFFERENTIAL PRESSURE SENSOR DPS-2 SHALL MONITOR FILTER PRESSURE DROP

(16) IF THE ENTERING AIR TEMPERATURE IS BELOW 65°F (ADJUSTABLE) THE MOTORIZED TWO-WAY HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F (ADJUSTABLE).

(17) IF THE ENTERING AIR TEMPERATURE IS ABOVE 72°F (ADJUSTABLE) THE MOTORIZED THREE-WAY CHILLED WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F (ADJUSTABLE).

(18) A CALL FOR COOLING SHALL BE DETERMINED BY AVERAGING THE ROOM TEMPERATURES OF ALL FOUR ISOLATION SUITE THERMOSTATS. THERMOSTAT SHALL DISPLAY HEATING/COOLING MODE, OCCUPANCY MODE TEMPERATURE SETPOINT AND ROOM TEMPERATURE. MODES AND SETPOINTS SHALL BE ADJUSTABLE AT THE THERMOSTAT AND DDC WORKSTATION(S).

OCCUPIED MODE: FAN SHALL OPERATE CONTINUOUSLY. HEATING SETPOINT SHALL BE SET AT 68°F. COOLING SETPOINT SHALL BE SET AT 72°F.

UNOCCUPIED MODE: FAN SHALL OPERATE ONLY ON A CALL FOR HEATING OR COOLING. HEATING SETPOINT SHALL BE SET AT 60°F. COOLING SETPOINT SHALL BE SET AT 80°F.

SYSTEM SHALL MAINTAIN 4°F (ADJUSTABLE) DEAD BAND BETWEEN HEATING AND COOLING SETPOINTS AT ALL TIMES.

IF THE AVERAGE TEMPERATURE OF THE ISOLATION SUITES IS ABOVE 75°F (ADJUSTABLE), THE MOTORIZED THREE-WAY CHILLED WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 55°F (ADJUSTABLE).

(19) IF TEMPERATURE LEAVING COOLING COIL FALLS BELOW 35°F (ADJUSTABLE) THE FAN SHALL SHUT DOWN AND THE DDC SYSTEM SHALL GENERATE AN ALARM SIGNAL.

(20) ON A CALL FOR HEAT, THE MOTORIZED TWO-WAY CONTROL VALVE SHALL MODULATE TO MAINTAIN ROOM TEMPERATURE SETPOINT.

(21) WHEN "HAND-OFF-AUTO" SWITCH IS IN "HAND" POSITION THE FAN SHALL OPERATE. IN "AUTO" POSITION THE FAN SHALL BE CONTROLLED FROM THE DDC SYSTEM. IN "OFF" POSITION THE FAN IS SHUT DOWN.

(22) MAU SUPPLY FAN SHALL ACTIVATE ONLY WHEN ASSOCIATED EXHAUST FANS ARE OPERATING.

(23) CURRENT SWITCH MONITORS FAN CONDITION (ON/OFF).

(24) UPON DETECTION OF PARTICLES OF COMBUSTION OR ACTIVATION OF A BUILDING FIRE ALARM, THE MAKE-UP AIR FAN SHALL SHUT DOWN, ALL ASSOCIATED EXHAUST FANS SHALL SHUT DOWN AND ALL CONTROL DEVICES SHALL GO TO THEIR FAIL SAFE POSITION.

(25) T-5 SHALL MONITOR DISCHARGE AIR TEMPERATURE

MAU-2

(26) T-6 SHALL MONITOR ENTERING AIR TEMPERATURE

(27) DIFFERENTIAL PRESSURE SENSOR DPS-3 SHALL MONITOR FILTER PRESSURE DROP

(28) IF THE ENTERING AIR TEMPERATURE IS BELOW 65°F (ADJUSTABLE) THE MOTORIZED TWO-WAY HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F (ADJUSTABLE).

(29) IF THE ENTERING AIR TEMPERATURE IS ABOVE 72°F (ADJUSTABLE) THE MOTORIZED THREE-WAY CHILLED WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F (ADJUSTABLE).

(30) IF TEMPERATURE LEAVING COOLING COIL FALLS BELOW 35°F (ADJUSTABLE) THE FAN SHALL SHUT DOWN AND THE DDC SYSTEM SHALL GENERATE AN ALARM SIGNAL.

(31) WHEN "HAND-OFF-AUTO" SWITCH IS IN "HAND" POSITION THE FAN SHALL OPERATE. IN "AUTO" POSITION THE FAN SHALL BE CONTROLLED FROM THE DDC SYSTEM. IN "OFF" POSITION THE FAN IS SHUT DOWN.

(32) MAU SUPPLY FAN SHALL ACTIVATE ONLY WHEN AN ASSOCIATED EXHAUST FAN IS OPERATING.

(33) CURRENT SWITCH MONITORS FAN CONDITION (ON/OFF).

(34) UPON DETECTION OF PARTICLES OF COMBUSTION OR ACTIVATION OF A BUILDING FIRE ALARM, THE MAKE-UP AIR FAN SHALL SHUT DOWN, ALL ASSOCIATED EXHAUST FANS SHALL SHUT DOWN AND ALL CONTROL DEVICES SHALL GO TO THEIR FAIL SAFE POSITION.

(35) T-7 SHALL MONITOR DISCHARGE AIR TEMPERATURE

CHILLER

(36) DURING COOLING MODE, CHILLER CH-1 SHALL OPERATE CONTINUOUSLY. THE CHILLERS INTERNAL CONTROLS SHALL OPERATE THE CHILLER AND INTERNAL CHW PUMPS TO MAINTAIN A 45°F (ADJUSTABLE) DISCHARGE WATER TEMPERATURE. THE DDC SYSTEM SHALL BE CONNECTED TO THE CHILLERS INTERNAL CONTROLS FOR MONITORING AND DIAGNOSTIC PURPOSES.

MONITORED POINTS SHALL INCLUDE EWT, LWT, SELF DIAGNOSTIC, OPERATION STATUS, OPERATING HOURS, NUMBER OF STARTS, COMPRESSOR STATUS, REFRIGERANT DISCHARGE AND SUCTION PRESSURES, OIL PRESSURE.

MONITORED ALARMS SHALL INCLUDE LOW CHW TEMP., REFRIGERANT DISCHARGE PRESSURE PROTECTION, LOW EVAPORATOR PRESSURE, CHW FLOW PROTECTION, LOW OIL PROTECTION, MOTOR CURRENT OVERLOAD AND PHASE LOSS PROTECTION, OVER/UNDER VOLTAGE PROTECTION, CHW FLOW INTERLOCK, PHASE REVERSAL PROTECTION. ALL SETPOINTS SHALL BE ADJUSTABLE THROUGH DDC SYSTEM.

(37) T-8 SHALL MONITOR RETURN WATER TEMPERATURE

(38) T-9 SHALL MONITOR SUPPLY WATER TEMPERATURE

EXHAUST FANS

(39) DURING OCCUPIED MODE, EF-3 SHALL OPERATE CONTINUOUSLY.

(40) DURING OCCUPIED MODE, EITHER EF-1 OR EF-2 SHALL OPERATE CONTINUOUSLY. FAN OPERATION SHALL ALTERNATE ON AN ADJUSTABLE, EQUAL RUNTIME BASIS. DDC SYSTEM SHALL DISPLAY CUMULATIVE RUN TIME OF EACH UNIT.

(41) DURING OCCUPIED MODE, EITHER EF-4 OR EF-5 SHALL OPERATE CONTINUOUSLY. FAN OPERATION SHALL ALTERNATE ON AN ADJUSTABLE, EQUAL RUNTIME BASIS. DDC SYSTEM SHALL DISPLAY CUMULATIVE RUN TIME OF EACH UNIT.

(42) WHEN "HAND-OFF-AUTO" SWITCH IS IN "HAND" POSITION THE FAN SHALL OPERATE. IN "AUTO" POSITION THE FAN SHALL BE CONTROLLED FROM THE DDC SYSTEM. IN "OFF" POSITION THE FAN IS SHUT DOWN.

(43) IF A FAN FAILS, THE SELECTED STANDBY FAN SHALL START AUTOMATICALLY AND THE DDC SYSTEM SHALL GENERATE AN ALARM SIGNAL.

(44) CURRENT SWITCH MONITORS FAN CONDITION (ON/OFF).

(45) EXHAUST FAN EF-6 SHALL BE CONTROLLED WITH COOLING ONLY THERMOSTAT SET TO 80°F (ADJUSTABLE). ON A CALL FOR COOLING, THE FAN SHALL OPERATE CONTINUOUSLY.

UNIT VENTILATORS

(46) THE UNIT VENTILATORS INTERNAL CONTROLS SHALL OPERATE THE UNIT TO MAINTAIN SETPOINT TEMPERATURE. MODES AND SETPOINTS SHALL BE ADJUSTABLE AT THE UNIT AND DDC WORKSTATION(S).

OCCUPIED MODE: FAN SHALL OPERATE CONTINUOUSLY. HEATING SETPOINT SHALL BE SET AT 68°F. COOLING SETPOINT SHALL BE SET AT 72°F.

UNOCCUPIED MODE: FAN SHALL OPERATE ONLY ON A CALL FOR HEATING OR COOLING. HEATING SETPOINT SHALL BE SET AT 60°F. COOLING SETPOINT SHALL BE SET AT 80°F.

SYSTEM SHALL MAINTAIN 4°F (ADJUSTABLE)DEAD BAND BETWEEN HEATING AND COOLING SETPOINTS AT ALL TIMES.

(47) ON A CALL FOR HEAT, THE MOTORIZED TWO WAY CONTROL VALVE SHALL MODULATE TO MAINTAIN ROOM TEMPERATURE SETPOINT.

(48) THE DDC SYSTEM SHALL BE CONNECTED TO THE UNIT VENTILATORS INTERNAL CONTROLS FOR MONITORING AND DIAGNOSTIC PURPOSES. ALL SETPOINTS SHALL BE ADJUSTABLE THROUGH DDC SYSTEM.

ISOLATION SUITE DIFFERENTIAL PRESSURE MONITOR

(49) PRESSURE SENSOR(S) SHALL MONITOR ISOLATION SUITE ROOM PRESSURE AND CORRIDOR PRESSURE. IF ISOLATION SUITE ROOM PRESSURE EXCEEDS CORRIDOR PRESSURE THE DDC SYSTEM SHALL GENERATE AN ALARM SIGNAL.

NOTE

1. REFER TO SHEET M-001 FOR LEGENDS, NOTES AND ABBREVIATIONS.

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC in association with STV Incorporated

DESIGNED BY: EHW | DWN BY: EHW | CKD BY: ADA | SUBMITTED BY: P. CHEN | FILE NAME: M-503.DWG | SIZE: ANSI E | PLOT SCALE: AS NOTED | DATE: APRIL 30, 2009 | SOLICITATION NO.: - | VA PROJECT NO.: VA-650-07-115 | DRAWING CODE: - | PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER BUILDING #1 REPAIR HVAC IN WARD 5B AND CHAPEL PROVIDENCE, RHODE ISLAND MECHANICAL DETAILS

SHEET IDENTIFICATION M-503 SHEET 22 OF 34

AIR CIRCULATION RATE SCHEDULE

ROOM NUMBER	SPACE FUNCTION	ROOM AREA (SQUARE FEET)	CEILING HEIGHT (FEET)	ROOM VOLUME (CUBIC FEET)	FLOW RATE REQUIRED (ACH)	AIRFLOW REQUIRED (CFM)	AIRFLOW AVAILABLE (CFM)	MEETS OR EXCEEDS
-	CORRIDOR	530	8	4240	6	424	430	YES
597	CONFERENCE RM	223	8	1784	6	178	430	YES
596	OFFICE	166	8	1328	4	89	215	YES
595	OFFICE	142	8	1136	4	76	215	YES
594	STORAGE	101	8	808	-	-	215	N/A
593	SWING SPACE	130	8	1040	-	-	215	N/A
593A	WAITING	226	8	1808	-	-	430	YES
593B	SWING SPACE	130	8	1040	-	-	215	N/A
592	OFFICE	150	8	1200	4	80	430	YES
-	CORRIDOR	1475	8	11800	6	1180	1255	YES
591	SOILED UTILITY	80	8	640	10	107	110	YES
590	2 BED RM	245	8	1960	6	196	430	YES
590A	TOILET	55	8	440	10	73	110	YES
589	2 BED RM	150	8	1200	6	120	430	YES
589A	TOILET	55	8	440	10	73	110	YES
588	2 BED RM	213	8	1704	6	170	430	YES
588A	TOILET	65	8	520	10	87	110	YES
587	2 BED RM	192	8	1536	6	154	430	YES
587A	TOILET	82	8	656	10	109	125	YES
586	2 BED RM	268	8	2144	6	214	520	YES
586A	TOILET	82	8	656	10	109	125	YES
585	2 BED RM	269	8	2152	6	215	520	YES
585A	TOILET	78	8	624	10	104	125	YES
584	2 BED RM	256	8	2048	6	205	520	YES
584A	TOILET	75	8	600	10	100	125	YES
583	1 BED ISOLATION	197	8	1576	12	315	385	YES
583A	TOILET	85	8	680	10	113	175	YES
582	ANTE	85	8	680	10	113	150	YES
581	KITCHEN	80	8	640	10	107	125	YES
580	MEDICAL RM	95	8	760	4	51	180	YES
579	NURSE STATION	265	8	2120	6	212	215	YES
578	CLEAN STORAGE	119	8	952	4	63	125	YES
577	CLEAN STORAGE	99	8	792	4	53	125	YES
576	ANTE	67	8	536	10	89	125	YES
575	1 BED ISOLATION	155	8	1240	12	248	335	YES
575A	TOILET	78	8	624	10	104	150	YES
574	2 BED RM	250	8	2000	6	200	430	YES
574A	TOILET	49	8	392	10	65	125	YES
573	2 BED RM	209	8	1672	6	167	520	YES
573A	TOILET	61	8	488	10	81	125	YES
572	2 BED RM	213	8	1704	6	170	520	YES
572A	TOILET	60	8	480	10	80	125	YES
571	2 BED RM	232	8	1856	6	186	430	YES
571A	TOILET	47	8	376	10	63	125	YES
570	2 BED RM	235	8	1880	6	188	520	YES
570A	TOILET	60	8	480	10	80	125	YES
569	2 BED RM	247	8	1976	6	198	430	YES
569A	TOILET	60	8	480	10	80	125	YES
566	OFFICE	137	8	1096	4	73	430	YES
565	CLOSET	67	8	536	-	-	75	N/A
564	STORAGE	59	8	472	-	-	75	N/A
563	STORAGE	145	8	1160	-	-	-	-
563A	MECH. ROOM	95	8	760	20	253	300	YES
562	OFFICE	77	8	616	4	41	430	YES
561	LOUNGE	179	8	1432	4	95	430	YES
561A	TOILET	73	8	584	10	97	100	YES
347	CHAPEL	1764	9	15876	6	1588	3000	YES

ABBREVIATIONS:
ACH=AIR CHANGES PER HOUR
CFM=CUBIC FEET PER MINUTE

AIR VENTILATION RATE SCHEDULE

ROOM NUMBER	SPACE FUNCTION	ROOM AREA (SQUARE FEET)	# PEOPLE	REQUIRED VENTILATION RATE	TOTAL VENTILATION REQUIRED (CFM)	TOTAL VENTILATION AVAILABLE (CFM)	ROOM AIR BALANCE	MEETS OR EXCEEDS
-	CORRIDOR	530	-	0.06 CFM/SQ.FT.	32 OA	40 OA	-	YES
597	CONFERENCE RM	223	11	6 CFM/PERSON	67 OA	80 OA	-	YES
596	OFFICE	166	1	17 CFM/PERSON	17 OA	20 OA	-	YES
595	OFFICE	142	1	17 CFM/PERSON	17 OA	20 OA	-	YES
594	STORAGE	101	-	-	-	-	-	N/A
593	SWING SPACE	130	6	6 CFM/PERSON	36 OA	50 OA	-	YES
593A	WAITING	226	3	15 CFM/PERSON	45 OA	50 OA	-	YES
593B	SWING SPACE	130	6	6 CFM/PERSON	36 OA	50 OA	-	YES
592	OFFICE	130	1	17 CFM/PERSON	17 OA	20 OA	-	YES
-	CORRIDOR	1475	-	0.06 CFM/SQ.FT.	89 OA	100 OA	-	YES
591	SOILED UTILITY	80	-	10 ACH (100% EXH)	107 EXH	110 EXH	NEG	YES
590	2 BED RM	245	2	25 CFM/PERSON	50 OA	110 OA	-	YES
590A	TOILET	55	-	10 ACH (100% EXH)	73 EXH	110 EXH	NEG	YES
589	2 BED RM	150	2	25 CFM/PERSON	50 OA	110 OA	-	YES
589A	TOILET	55	-	10 ACH (100% EXH)	73 EXH	110 EXH	NEG	YES
588	2 BED RM	213	2	25 CFM/PERSON	50 OA	110 OA	-	YES
588A	TOILET	65	-	10 ACH (100% EXH)	87 EXH	110 EXH	NEG	YES
587	2 BED RM	192	2	25 CFM/PERSON	50 OA	125 OA	-	YES
587A	TOILET	82	-	10 ACH (100% EXH)	109 EXH	125 EXH	NEG	YES
586	2 BED RM	268	2	25 CFM/PERSON	50 OA	125 OA	-	YES
586A	TOILET	82	-	10 ACH (100% EXH)	109 EXH	125 EXH	NEG	YES
585	2 BED RM	269	2	25 CFM/PERSON	50 OA	125 OA	-	YES
585A	TOILET	78	-	10 ACH (100% EXH)	104 EXH	125 EXH	NEG	YES
584	2 BED RM	256	2	25 CFM/PERSON	50 OA	125 OA	-	YES
584A	TOILET	75	-	10 ACH (100% EXH)	100 EXH	125 EXH	NEG	YES
583	1 BED ISOLATION	197	-	12 ACH (100% OA)	315 OA	385 OA / 560 EXH	NEG	YES
583A	TOILET	85	-	10 ACH (100% EXH)	113 EXH	175 EXH	NEG	YES
582	ANTE	85	-	10 ACH (100% OA)	113 OA	150 OA	POS	YES
581	KITCHEN	80	-	0.3 CFM/SQ.FT. EXH	25 EXH	30 EXH	-	YES
580	MEDICAL RM	95	-	-	-	-	POS	YES
579	NURSE STATION	265	3	17 CFM/PERSON	51 OA	60 OA	-	YES
578	CLEAN STORAGE	119	-	-	-	-	POS	YES
577	CLEAN STORAGE	99	-	-	-	-	POS	YES
576	ANTE	67	-	10 ACH (100% OA)	89 OA	125 OA	POS	YES
575	1 BED ISOLATION	155	-	12 ACH (100% OA)	248 OA	335 OA / 485 EXH	NEG	YES
575A	TOILET	78	-	10 ACH (100% EXH)	104 EXH	150 EXH	NEG	YES
574	2 BED RM	250	2	25 CFM/PERSON	50 OA	125 OA	-	YES
574A	TOILET	49	-	10 ACH (100% EXH)	65 EXH	125 EXH	NEG	YES
573	2 BED RM	209	2	25 CFM/PERSON	50 OA	125 OA	-	YES
573A	TOILET	61	-	10 ACH (100% EXH)	81 EXH	125 EXH	NEG	YES
572	2 BED RM	213	2	25 CFM/PERSON	50 OA	125 OA	-	YES
572A	TOILET	60	-	10 ACH (100% EXH)	80 EXH	125 EXH	NEG	YES
571	2 BED RM	232	2	25 CFM/PERSON	50 OA	125 OA	-	YES
571A	TOILET	47	-	10 ACH (100% EXH)	63 EXH	125 EXH	NEG	YES
570	2 BED RM	235	2	25 CFM/PERSON	50 OA	125 OA	-	YES
570A	TOILET	60	-	10 ACH (100% EXH)	80 EXH	125 EXH	NEG	YES
569	2 BED RM	247	2	25 CFM/PERSON	50 OA	125 OA	-	YES
569A	TOILET	60	-	10 ACH (100% EXH)	80 EXH	125 EXH	NEG	YES
566	OFFICE	137	1	17 CFM/PERSON	17 OA	20 OA	-	YES
565	CLOSET	67	-	-	-	75 EXH	-	N/A
564	STORAGE	59	-	-	-	75 EXH	-	N/A
563	STORAGE	145	-	-	-	-	-	N/A
563A	MECH. ROOM	95	-	20 ACH (100% EXH.)	253 EXH	300 EXH	NEG	YES
562	OFFICE	77	1	17 CFM/PERSON	17 OA	20 OA	-	YES
561	LOUNGE	179	2	20 CFM/PERSON	40 OA	100 OA	-	YES
561A	TOILET	73	-	10 ACH (100% EXH.)	97 EXH	100 EXH	NEG	YES
347	CHAPEL	1764	100	5 CFM/PERSON	500 OA	500 OA	-	YES

NOTES:
1. VENTILATION RATES ARE BASED ON ANSI/ASHRAE STANDARD 62.1, INTERNATIONAL MECHANICAL CODE AND VA HVAC DESIGN GUIDE

ABBREVIATIONS:
ACH=AIR CHANGES PER HOUR
CFM = CUBIC FEET PER MINUTE
EXH = EXHAUST AIR
OA = OUTDOOR AIR

ROOM AIR BALANCE:
POS=SPACE IS POSITIVELY PRESSURIZED; AIR MOVEMENT OUT
NEG=SPACE IS NEGATIVELY PRESSURIZED; AIR MOVEMENT IN

FAN COIL UNIT SCHEDULE

SYMBOL	MAKE / MODEL	SERVING	SUPPLY FAN DATA: AIR FLOW (CFM)	O.A. (CFM)	ESP (IN WG)	FAN SPEED	RPM	MOTOR DATA: HP	WATTS	AMPS	VOLTS/PH/HZ	HEATING COIL DATA (HOT WATER): # ROWS	CAPACITY (MBH)	EAT (F°)	LAT (F°)	EWT (F°)	LWT (F°)	FLOW (GPM)	PD (FT HD)	COOLING COIL DATA (CHILLED WATER): ROWS	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT (DB/WB)(F°)	LAT (DB/WB)(F°)	EWT (F°)	LWT (F°)	FLOW (GPM)	PD (FT HD)	WEIGHT (LBS)	REMARKS
FC-1-5-001	CARRIER / 42DE 06	597	430	80	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-002	CARRIER / 42DE 06	595, 596	430	40	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-003	CARRIER / 42DE 06	561, 562	430	120	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-004	CARRIER / 42DE 06	CORRIDOR	430	40	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-005	CARRIER / 42DE 06	593A	430	50	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-006	CARRIER / 42DE 06	593	430	100	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-007	CARRIER / 42DE 06	566	430	20	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-008	CARRIER / 42DE 06	592	430	20	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-009	CARRIER / 42DE 06	579	430	60	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-010	CARRIER / 42DE 06	580	430	0	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-011	CARRIER / 42DE 06	569	430	125	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-012	CARRIER / 42DE 06	570	520	125	0.10	M	560	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-013	CARRIER / 42DE 06	571	430	125	0.10	L	660	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-014	CARRIER / 42DE 06	574	430	125	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-015	CARRIER / 42DE 06	CORRIDOR	520	50	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-016	CARRIER / 42DE 06	572	520	125	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-017	CARRIER / 42DE 06	573	520	125	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-018	CARRIER / 42DE 06	590	430	110	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-019	CARRIER / 42DE 06	589	430	110	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-020	CARRIER / 42DE 06	588	430	110	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-021	CARRIER / 42DE 06	587	430	125	0.10	L	560	1/10	195	1.95	120/1/60	1	14	70	100	180	148	1	1.5	3	10.0	9.3	75/63	56/55	45	53	2	3.3	140	1,2,3,4,5,6
FC-1-5-022	CARRIER / 42DE 06	584	520	125	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-023	CARRIER / 42DE 06	CORRIDOR	520	50	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-024	CARRIER / 42DE 06	585	520	125	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6
FC-1-5-025	CARRIER / 42DE 06	586	520	125	0.10	M	660	1/10	195	1.95	120/1/60	1	16	70	100	180	148	1	1.5	3	11.5	10.3	75/63	56/55	45	53	3	3.3	140	1,2,3,4,5,6

REMARKS:
1. PROVIDE 3-WAY MOTORIZED VALVE PACKAGE FOR CHW COIL, 2-WAY VALVE PACKAGE FOR HW COIL. PROVIDE AUTOMATIC BALANCE VALVES SET TO SPECIFIED FLOW.
2. PERFORMANCE BASED ON 30% PPG SOLUTION
3. PROVIDE UNIT WITH FILTER AND FILTER RACK. PROVIDE CLEARANCE FOR REMOVAL.
4. HANG UNIT WITH 3/8" THREADED RODS AND SPRING/NEOPRENE VIBRATION ISOLATORS
5. PROVIDE DUCT FLEX CONNECTION AT UNIT INLET AND OUTLET.
6. PROVIDE BACNET CONTROLS

SELF CONTAINED UNIT VENTILATOR SCHEDULE

SYMBOL	MAKE / MODEL	SERVING	SUPPLY FAN DATA: AIR FLOW (CFM)	O.A. (CFM)	ESP (IN WG)	FAN SPEED	RPM	MOTOR DATA: HP	WATTS	AMPS	VOLTS/PH/HZ	HEATING COIL DATA (HOT WATER): # ROWS	CAPACITY (MBH)	EAT (F°)	LAT (F°)	EWT (F°)	LWT (F°)	FLOW (GPM)	PD (FT HD)	COOLING COIL DATA (DX): TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT (DB/WB)(F°)	LAT (DB/WB)(F°)	WEIGHT (LBS)	REMARKS
UV-1-3-001	AAF HERMAN NELSON / AZQ 024	CHAPEL	960	125	-	-	-	1/4	216	1.95	115/1/60	1	45	60	103	160	144	6	10	26.8	21.5	80/67	60/57	885	1,2,3,4,5,6
UV-1-3-002	AAF HERMAN NELSON / AZQ 024	CHAPEL	960	125	-	-	-	1/4	216	1.95	115/1/60	1	45	60	103	160	144	6	10	26.8	21.5	80/67	60/57	885	1,2,3,4,5,6
UV-1-3-003	AAF HERMAN NELSON / AZQ 024	CHAPEL	960	125	-	-	-	1/4	216	1.95	115/1/60	1	45	60	103	160	144	6	10	26.8	21.5	80/67	60/57	885	1,2,3,4,5,6
UV-1-3-004	AAF HERMAN NELSON / AZQ 024	CHAPEL	960	125	-	-	-	1/4	216	1.95	115/1/60	1	45	60	103	160	144	6	10	26.8	21.5	80/67	60/57	885	1,2,3,4,5,6

REMARKS:
1. PROVIDE WITH STAINLESS STEEL DRAIN PANS.
2. PROVIDE ULTRA QUIET MODEL.
3. PROVIDE FACTORY WALL SLEEVE, LOUVER AND BIRD SCREEN
4. PROVIDE DDC CONTROL INTERFACE
5. PROVIDE ECONOMIZER WITH ENTHALPY CONTROLS
6. PROVIDE BACNET CONTROLS

ROOFTOP MAKE-UP AIR UNIT SCHEDULE

SYMBOL	MAKE / MODEL	SERVING	SUPPLY FAN DATA: AIR FLOW (CFM)	O.A. (%)	ESP (IN WG)	DRIVE TYPE	RPM	MOTOR DATA: HP	AMPS	VOLTS/PH/HZ	HEATING COIL (HOT WATER): CAPACITY (MBH)	EAT (F°)	LAT (F°)	EWT (F°)	LWT (F°)	FLOW (GPM)	PD (FT HD)	COOLING COIL (CHILLED WATER): TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	EAT (DB/WB)(F°)	LAT (DB/WB)(F°)	EWT (F°)	LWT (F°)	FLOW (GPM)	PD (FT HD)	WEIGHT (LBS)	REMARKS
MAU-1-R-001	CARRIER / 06 39MW	ISO. SUITE	2080	100%	1.9	BELT	1740	2	-	208/1/60	172	0	75	180	160	17.2	1.1	128	77	89/73	55/56	45	55	27	3.6	2143	1,2,3,4,5,7,8
MAU-1-R-002	CARRIER / 06 39MW	WARD 5	2210	100%	1.4	BELT	1740	2	-	460/3/60	172	0	75	180	160	17.2	1.1	62	53	89/73	70/66	45	55	13	3.6	2143	1,2,3,4,5,6,7,8

REMARKS:
1. FILTERS SHALL BE AMERICAN AIR FILTER AMAIR 301, 2" PLEATED, 30% EFFICIENCY, INITIAL AND FINAL PRESSURE DROPS AT 500 FPM SHALL BE 0.43" AND 1.0".
2. PROVIDE WITH STAINLESS STEEL DRAIN PANS.
3. PROVIDE DOUBLE WALL SEALED PANEL CONSTRUCTION WITH PAINTED EXTERIOR PANELS
4. MODIFY EXISTING ROOF CURB AS REQUIRED TO ACCOMMODATE NEW UNIT
5. PROVIDE FAN WITH SPRING VIBRATION ISOLATORS
6. PROVIDE NON-FUSED COMBINATION STARTER/DISCONNECT SWITCH IN WEATHERPROOF ENCLOSURE
7. PERFORMANCE BASED ON 30% PPG SOLUTION
8. PROVIDE BACNET CONTROLS

AIR COOLED CHILLER SCHEDULE

SYMBOL	MAKE / MODEL	NOMINAL CAPACITY (TONS)	MEDIA	COMPRESSOR TYPE	REFRIGERANT	AMBIENT AIR TEMP (°F)	PUMP DATA: FLOW (GPM)	EWT (°F)	LWT (°F)	CHILLER PD (FT HD)	EXTERNAL PD (FT HD)	TOTAL DYNAMIC PD (FT HD)	HP	ELECTRICAL DATA: MCA	MOCP	VOLTS/PH/HZ	WEIGHT (LBS)	MAXIMUM SOUND PRESSURE (dB), OCTAVE BAND (Hz): 63	125	250	500	1K	2K	4K	8K	REMARKS
CH-1-R-001	CARRIER / 30 RA035	35	30% PPG	SCROLL	R22	95	98	55	45	28	49	77	5	79.5	100	460/3/60	3134	54	62	63	62	60	56	50	44	1,2,3,4,5,6,7,8

MEDIA:
EG
W
PPG

REMARKS:
1. CHILLER SOUND PRESSURE LEVELS SHALL NOT EXCEED LISTED VALUES. DATA IS AT A DISTANCE OF 50 FEET FROM THE FACE OF THE CHILLER IN ANY DIRECTION.
2. PROVIDE BACNET TRANSLATOR CONTROL
3. PROVIDE INTERNAL DUPLEX PUMP SET DUPLEX PUMP MOTOR CONTROL PANEL WITH MOTOR STARTER, AUTOMATIC ELECTRIC ALTERNATOR, DISCONNECT SWITCH AND AUXILIARY ACCESSORIES FOR MANUAL AND AUTOMATIC OPERATION
4. PROVIDE NON-FUSED DISCONNECT SWITCH
5. PERFORMANCE BASED ON 30% PPG SOLUTION
6. PROVIDE ROOF CURB AND STRUCTURAL STEEL BASE WITH SPRING VIBRATION ISOLATORS.
7. PROVIDE LOW-AMBIENT OPERATION
8. PROVIDE WITH SUPPLY WATER TEMPERATURE RESET CONTROL

HEAT EXCHANGER SCHEDULE

SYMBOL	MAKE / MODEL	SERVING	LOCATION	TYPE	SOURCE SIDE: MEDIA	EWT (°F)	LWT (°F)	FLOW (GPM)	PD (FT HD)	LOAD SIDE: MEDIA	EWT (°F)	LWT (°F)	FLOW (GPM)	PD (FT HD)	TOTAL CAPACITY (MBH)	REMARKS
HX-1-5-001	B&G / GPX	WARD 5	5TH FLOOR MECH. RM	SHELL & TUBE	WATER	240	220	64	10	30% PPG	180	160	64	3	610	1

REMARKS:
1. PERFORMANCE BASED ON 30% PPG SOLUTION (LOAD SIDE)

DUCT MOUNTED HOT WATER COIL SCHEDULE

SYMBOL	MAKE / MODEL	SERVING	TYPE	TOTAL CAPACITY (MBH)	# ROWS	AIR DATA: AIRFLOW (CFM)	MAX FACE VELOCITY (FPM)	EAT (F°)	LAT (F°)	PD (IN WC)	FLUID DATA: EWT (F°)	LWT (F°)	FLOW (GPM)	PD (FT HD)	REMARKS
HWC-1-5-001	USA COIL / F208-9X12	575, 576	HW	12.6	2	460	750	75	100		180	155	1		1
HWC-1-5-002	USA COIL / F208-9X12	582, 583	HW	14.5	2	535	750	75	100		180	165	2		1
HWC-1-6-001	USA COIL / F208-9X12	675, 676	HW	11.3	2	415	750	75	100		180	160	1		1
HWC-1-6-002	USA COIL / F208-9X12	678, 679	HW	11.3	2	425	750	75	100		180	160	1		1

REMARKS:
1. PROVIDE DUCT TRANSITIONS TO ACCOMMODATE UNIT

AIR DISTRIBUTION SCHEDULE

MARK	CFM RANGE	NECK SIZE INCHES	FACE SIZE	DESCRIPTION
A	0-100	6"Ø	24"x24"	**SUPPLY DIFFUSER**
	101-200	8"Ø	24"x24"	MAKE / MODEL: METALAIRE PHENOMENATOR
	201-300	10"Ø	24"x24"	MATERIAL: STEEL
	301-400	12"Ø	24"x24"	BORDER: LAY-IN
	401-600	14"Ø	24"x24"	COLOR: WHITE
B	0-400	10"x10"	10"x10"	**EXHAUST/RETURN GRILLE**
	400-600	14"x14"	14"x14"	MAKE / MODEL: METALAIRE CC5 MATERIAL: ALUMINUM BORDER: SURFACE MOUNT COLOR: WHITE
C	PER PLAN			**EXISTING TO REMAIN**

NOTES:
PROVIDE STANDARD FINISH.

PUMP SCHEDULE

PLAN MARK	MAKE / MODEL	TYPE	LOCATION	SERVING	FLUID DATA: MEDIA	FLOW RATE (GPM)	TOTAL HEAD (FT)	FLUID TEMP (°F)	MOTOR DATA: HP	RPM	ELECTRICAL DATA: VOLTS/PH/HZ	REMARKS
P-1-5-001	B&G / SERIES 90 1-1/2AA	IL	5TH FLOOR MECH. RM	WARD 5	30% PPG	69	80	180	3	3450	208/3/60	1,2,3,4
P-1-5-002	B&G / SERIES 90 1-1/2AA	IL	5TH FLOOR MECH. RM	WARD 5	30% PPG	69	80	180	3	3450	208/3/60	1,2,3,4

TYPE:
ES = END SUCTION
CC = CLOSE COUPLED
HSC = HORIZONTAL SPLIT CASE
IL = INLINE
VSC = VERTICAL SPLIT CASE

MEDIA:
30% PPG = 30% PROPYLENE GLYCOL
W = WATER

REMARKS:
1. PROVIDE WITH INVERTER DUTY MOTOR AND VARIABLE FREQUENCY DRIVE
2. PERFORMANCE BASED ON 30% PPG SOLUTION
3. PROVIDE DUPLEX PUMP MOTOR CONTROL PANEL WITH MOTOR STARTER, AUTOMATIC ELECTRIC ALTERNATOR, DISCONNECT SWITCH AND AUXILIARY ACCESSORIES FOR MANUAL AND AUTOMATIC OPERATION
4. HANG UNIT WITH 1/2" THREADED RODS AND SPRING/NEOPRENE VIBRATION ISOLATORS

EXPANSION TANK SCHEDULE

SYMBOL	MAKE / MODEL	LOCATION	SYSTEM	TYPE	TANK VOLUME (GAL)	ACCEPT. VOLUME (GAL)	SYSTEM VOLUME (GAL)	MAX PRESSURE (PSI)	MIN PRESSURE (PSI)	REMARKS
EX-1-5-001	AMTROL / AX-40V	5TH FLOOR MECH. RM	HW	DIAPHRAGM	21.7	11.3	93	33	14.7	1

REMARKS:
1. PERFORMANCE BASED ON 30% PPG SOLUTION

FAN SCHEDULE

SYMBOL	MAKE / MODEL	TYPE	DESC.	LOCATION	SERVING	AIR FLOW (CFM)	E.S.P. (IN WG)	FAN SPEED (RPM)	DRIVE TYPE	MOTOR DATA: BHP	RPM	VOLTS/PH/HZ	WEIGHT (LBS)	REMARKS
EF-1-R-001	GREENHECK / SFB-9	CUF	EXHAUST	ROOF	WARD 5B ISO. SUITE	1045	1.75	1752	B	.73	-	120/1/60	75	1,3,4,6,7
EF-1-R-002	GREENHECK / SFB-9	CUF	EXHAUST	ROOF	WARD 5B ISO. SUITE	1045	1.75	1752	B	.73	-	120/1/60	75	1,3,4,6,7
EF-1-R-003	GREENHECK / SFB-10	CUF	EXHAUST	ROOF	WARD 5B	1945	0.75	1160	B	.85	-	120/1/60	113	1,5,6,7
EF-1-R-004	GREENHECK / SFB-9	CUF	EXHAUST	ROOF	WARD 6B ISO. SUITE	905	1.75	1683	B	.56	-	120/1/60	75	1,3,4,6,7
EF-1-R-005	GREENHECK / SFB-9	CUF	EXHAUST	ROOF	WARD 6B ISO. SUITE	905	1.75	1683	B	.56	-	120/1/60	75	1,3,4,6,7
EF-1-5-006	GREENHECK / SQ-80-G	IL	EXHAUST	WARD 5B MECH. RM.	WARD 5B MECH. RM.	300	0.1	1300	D	.025	-	120/1/60	41	1,2,5,6

TYPE:
CEF
IL
VA
CUF

DRIVE:
B = BELT DRIVE
D = DIRECT DRIVE

REMARKS:
1. PROVIDE GRAVITY BACKDRAFT DAMPER.
2. HANG UNIT WITH 3/8" THREADED RODS AND SPRING/NEOPRENE VIBRATION ISOLATORS
3. PROVIDE MULTIPLE APPLIANCE INTERLOCK AND FAN PROVING SWITCH.
4. PROVIDE DUPLEX MOTOR CONTROL PANEL WITH MOTOR STARTER, AUTOMATIC ELECTRIC ALTERNATOR, DISCONNECT SWITCH AND AUXILIARY ACCESSORIES FOR MANUAL AND AUTOMATIC OPERATION
5. PROVIDE SIMPLEX MOTOR CONTROL PANEL WITH MOTOR STARTER, DISCONNECT SWITCH AND AUXILIARY ACCESSORIES FOR MANUAL AND AUTOMATIC OPERATION
6. PROVIDE BACNET CONTROLS
7. MODIFY EXISTING ROOF CURBS AS REQD. TO MOUNT FAN. PROVIDE NEOPRENE MOUNTS.

AIR SEPARATOR SCHEDULE

SYMBOL	MAKE / MODEL	LOCATION	SYSTEM	INLET SIZE (DIA)	FLOW (GPM)	REMARKS
AS-1-B-001	AMTROL / 2-AS	5TH FLOOR MECH. RM	HW	2"	64	
AS-1-B-002	AMTROL / 3-AS	5TH FLOOR MECH. RM	CHW	3"	110	

REMARKS:

GLYCOL MAKE-UP SCHEDULE

SYMBOL	MAKE / MODEL	LOCATION	SERVING	FLUID DATA: MEDIA	FLOW RATE (GPM)	PRESSURE RANGE (PSI)	TANK SIZE	MOTOR DATA: HP	ELECTRICAL DATA: VOLTS/PH/HZ	REMARKS
GMU-1-5-001	WESSELS / GMP-15050	5TH FLOOR MECH. RM	HW	30% PPG	1.7 @ 70 PSI	10-70	55 GAL	1/2	115 / 1 / 60	1
GMU-1-R-002	WESSELS / GMP-15050	5TH FLOOR MECH. RM	CHW	30% PPG	1.7 @ 70 PSI	10-70	55 GAL	1/2	115 / 1 / 60	1

REMARKS:
1. UNIT SHALL CONTAIN LOW LEVEL CUT-OFF AND ALARM, ISOLATION VALVES, STRAINER, PRESSURE TANK WITH PRESSURE CONTROL, PRESSURE REDUCING VALVE AND GAGE, MAGNETIC STARTER, MOTOR, DISCONNECT, CONTROLS AND AUXILIARY ACCESSORIES FOR MANUAL AND AUTOMATIC OPERATION.

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK | DESCRIPTION | DATE | APPR.

DESIGNED BY: EHW
DWN BY: EHW
CKD BY: ADA
SUBMITTED BY: P. CHEN
FILE NAME: M-601.DWG
SIZE: ANSI E
PLOT SCALE: AS NOTED
DATE: APRIL 30, 2009
SOLICITATION NO.: -
VA PROJECT NO.: VA-650-07-115
DRAWING CODE: -
PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
MECHANICAL SCHEDULES

SHEET IDENTIFICATION
M-601

PLUMBING ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	KW	KILOWATT
AFG	ABOVE FINISHED GRADE	MC	MECHANICAL CONTRACTOR
AHU	AIR HANDLING UNIT	MEP	MECHANICAL, ELECTRICAL & PLUMBING
BFP	BACKFLOW PREVENTER DEVICE	NIC	NOT IN CONTRACT
BOP	BOTTOM OF PIPE	P	PITCH
BOS	BOTTOM OF STEEL	PSI	POUNDS PER SQUARE INCH
BOF	BOTTOM OF FOOTING	RTU	ROOF TOP UNIT
CO	CLEANOUT	SAN	SANITARY
COND	CONDENSATE	SF, SQ FT	SQUARE FEET
CTE	CONNECT TO EXISTING	ST	STORM
CV	CHECK VALVE	TYP	TYPICAL
CW	COLD WATER	UH	UNIT HEATER
DN	DOWN	V	VENT
EC	ELECTRICAL CONTRACTOR	VIF	VERIFY IN FIELD
EX	EXISTING	VS	VENT STACK
EVTR	EXISTING VENT THRU ROOF	VTR	VENT THRU ROOF
FD	FLOOR DRAIN	W	WASTE
FCO	FLOOR CLEANOUT	W&T	WASTE & TRAP
FCU	FAN COIL UNIT	W&V	WASTE & VENT
GALV	GALVANIZED	WCO	WALL CLEANOUT
GC	GENERAL CONTRACTOR	WS	WASTE STACK
HW	HOT WATER	EXFD	EXISTING FLOOR DRAIN
HWR	HOT WATER RECIRCULATION		

PLUMBING DEMOLITION NOTES

THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:

A. REMOVE ALL PLUMBING FIXTURES, CARRIERS, TRIM, ACCESSORIES, EQUIPMENT, FLOOR DRAINS AND PIPING AS SHOWN OR INDICATED ON THE DRAWINGS.

B. REMOVE ALL PIPING COMPLETELY OR AS OTHERWISE SHOWN OR INDICATED ON DOCUMENTS. ALL PIPE HANGERS, SLEEVES, RISER CLAMPS, ETC. SHALL BE REMOVED COMPLETELY WITH PIPING. NO EXISTING HANGER SYSTEMS SHALL BE REUSED FOR NEW PIPING.

C. REMOVE ALL PIPING TO BELOW FLOOR, ABOVE CEILING OR IN WALLS AND BACK TO MAINS OR SHUT OFF VALVES AT MAINS, CAP AND SECURE PER CODE WITHOUT LEAVING DEAD ENDED PIPING.

D. NO EQUIPMENT OR DEVICES THAT HAVE BEEN DISCONNECTED AND OR ABANDONED SHALL REMAIN.

E. ALL EXISTING PIPING AND EQUIPMENT SHOWN HAS BEEN TAKEN FROM THE BEST AVAILABLE SOURCES. THE DOCUMENTS ARE DIAGRAMMATIC AND ALL FIXTURES, PIPING, AND DEVICES MAY NOT BE SHOWN. THE INTENT OF THESE DRAWINGS IS THAT SYSTEM EQUIPMENT AND PIPING IS TO BE REMOVED IN ALL RENOVATED AREAS AS NOTED AND MAY NOT ALL BE SHOWN.

F. VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING SYSTEMS AND CONDITIONS IN AREAS OF RENOVATION.

G. ANY SYSTEMS OR EQUIPMENT TO REMAIN ACTIVE DURING RENOVATION SHALL BE KEPT IN OPERATION BY PROVIDING TEMPORARY PIPING CONNECTIONS AS REQUIRED UNTIL NEW SYSTEMS ARE INSTALLED AND OPERATIONAL.

H. ALL PHASING OF THE PLUMBING DEMOLITION WORK SHALL BE COORDINATED WITH THE OWNER AND CONSTRUCTION MANAGER (OR GENERAL CONTRACTOR) IN ORDER TO SATISFY THE CONSTRUCTION SCHEDULE AND OWNER'S OCCUPANCY REQUIREMENTS.

I. ANY FIXTURE OR EQUIPMENT TO BE REMOVED AND REUSED SHALL BE TURNED OVER TO THE OWNER. AT OWNERS REQUEST, FIXTURES AND EQUIPMENT SHALL BE STORED TO PREVENT DAMAGE. DAMAGED EQUIPMENT SHALL BE REPLACED BY THIS CONTRACTOR.

J. REVIEW THE ARCHITECTURAL DEMOLITION DRAWINGS AS PART OF THIS CONTRACT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

K. ALL SERVICE INTERRUPTIONS SHALL BE COORDINATED AND APPROVED WITH THE OWNER PRIOR TO COMMENCEMENT OF ANY WORK.

L. COORDINATE DEMOLITION WORK WITH THAT OF OTHER TRADES IN ORDER TO AVOID CONFLICTS.

PLUMBING GENERAL NOTES

A. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:

B. THESE GENERAL NOTES ARE APPLICABLE TO ALL PLUMBING DRAWINGS.

C. DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL INTENT OF WORK, SEE DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

D. REVIEW DRAWINGS OF THE OTHER TRADES AS PART OF THIS CONTRACT FOR ADDITIONAL WORK REQUIRED AND COORDINATION OF CONTRACTUAL WORK FOR OPERATIONS AND CONNECTIONS TO OTHER SYSTEMS.

E. PROVIDE ALL SERVICES TO HVAC EQUIPMENT INCLUDING BUT NOT LIMITED TO: CONDENSATE PIPING, COLD WATER SUPPLY PIPING, DRAINS, AND CONNECTIONS TO AIR HANDLING UNITS, FAN COIL UNITS, UNIT VENTILATORS, ETC. ALSO, PROVIDE ADDITIONAL DEVICES INCLUDING BUT NOT LIMITED TO: BACKFLOW PREVENTERS, REGULATORS, UNIONS, TRAPS, AND SHUT-OFF VALVES REQUIRED FOR AFOREMENTIONED EQUIPMENT. REFER TO HVAC DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

F. PROVIDE PIPE EXPANSION JOINTS AND APPROVED SEISMIC LOOPS ON PIPING PASSING THRU ALL BUILDING EXPANSION JOINT AND SEISMIC JOINT LOCATIONS AS REQUIRED PER BUILDING CODES WHETHER OR NOT SHOWN ON DRAWINGS. REVIEW ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT BUILDING EXPANSION AND SEISMIC JOINT LOCATIONS AND EXPANSION DIMENSIONS.

G. IN RENOVATION WORK, COORDINATE SYSTEMS SHUTDOWN WITH OWNER IN ORDER TO MAKE NEW PIPING CONNECTIONS. ALLOW MINIMUM OF TEN (10) DAYS ADVANCE NOTICE FOR OWNER APPROVAL TO PROCEED WITH CONTRACT WORK.

H. PLUMBING CONTRACTOR SHALL REFER TO CONSTRUCTION SEQUENCE AND SPECIFICATIONS FOR ALL CONSTRUCTION PHASING, STAGING AND INFECTIOUS CONTROL REQUIREMENTS.

PLUMBING PIPING LEGEND

	COLD WATER
	HOT WATER
	HOT WATER RECIRCULATION
	WASTE OR SANITARY BELOW FLOOR
	VENT
	CONDENSATE WASTE
	REMOVE EXISTING PIPING OR EQUIPMENT
	DIRECTION OF FLOW
	EXISTING PIPING OR EQUIPMENT
	PIPE DOWN
	PIPE DROP
	PIPE RISE
	PIPE ANCHOR
	PIPE GUIDE OR SLEEVE
	PIPE EXPANSION FITTING
	VIBRATION ISOLATION FITTING
	PLUGGED OR CAPPED PIPE
	CLEANOUT PLUG (WITH FINISHED PLATE FOR WCO)
	FLOOR CLEANOUT
	RUNNING TRAP

LEGEND NOTE

THESE ARE THE GENERAL LEGENDS OF SYMBOLS AND ABBREVIATIONS, AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS DEFINED ARE NECESSARILY USED ON THIS PROJECT.

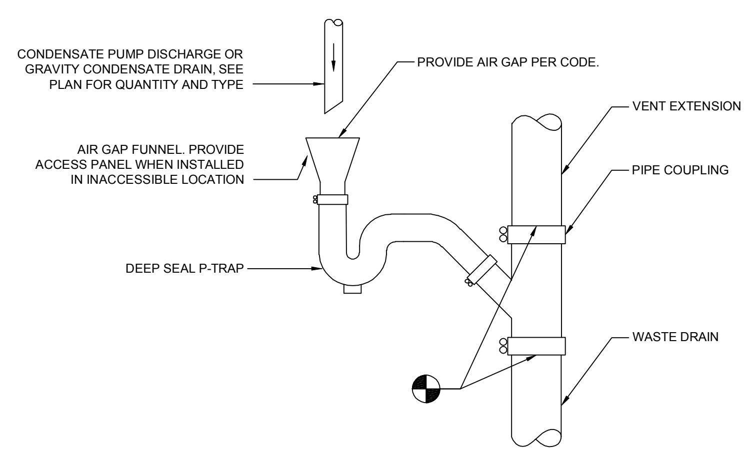
PLUMBING SYMBOL LEGEND

	THERMOMETER
	PRESSURE GAUGE WITH PETCOCK
	WATER HAMMER ARRESTER WITH SHUTOFF VALVE
	STRAINER - 'Y' TYPE
	P-TRAP
	FLOOR DRAIN
TP	TRAP PRIMER (REFER TO SPECIFICATIONS FOR TYPE)
	UNION
	PETCOCK
	BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	BACKFLOW PREVENTER (DOUBLE CHECK VALVE TYPE)
	BACKFLOW PREVENTER ASSEMBLY (RPD) WITH SHUTOFF VALVES
	SHUTOFF VALVE (REFER TO SPECIFICATIONS FOR TYPE)
	OS&Y GATE VALVE
	VALVE IN PIPE DROP
	VALVE IN PIPE RISER
	ANGLE VALVE
	WALL HYDRANT (WH) OR HOSE BIBB (HB)
	DRAIN
	TEMPERATURE & PRESSURE RELIEF VALVE (T&P)
	CONNECT TO EXISTING

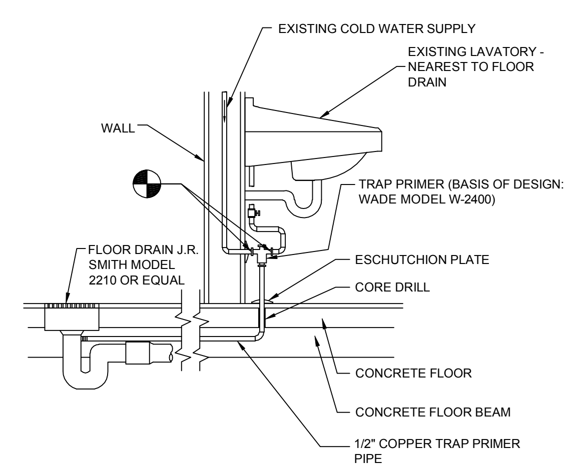
CONDENSATE PUMP PERFORMANCE REQUIREMENTS

PLAN MARK	MANUFACTURER & MODEL NUMBER (BASIS OF DESIGN)	LOCATION	WATER DATA		MOTOR DATA		ELECTRICAL		WEIGHT (LBS)	REMARKS
			GPM @ 1 FT HD	GPM @ 10 FT HD	HP	RPM	VOLT/P	AMPS		
-	HARTELL CB251UL OR EQUAL	VARIOUS	108	84	1/20	-	115/1	1.3	8.6	1

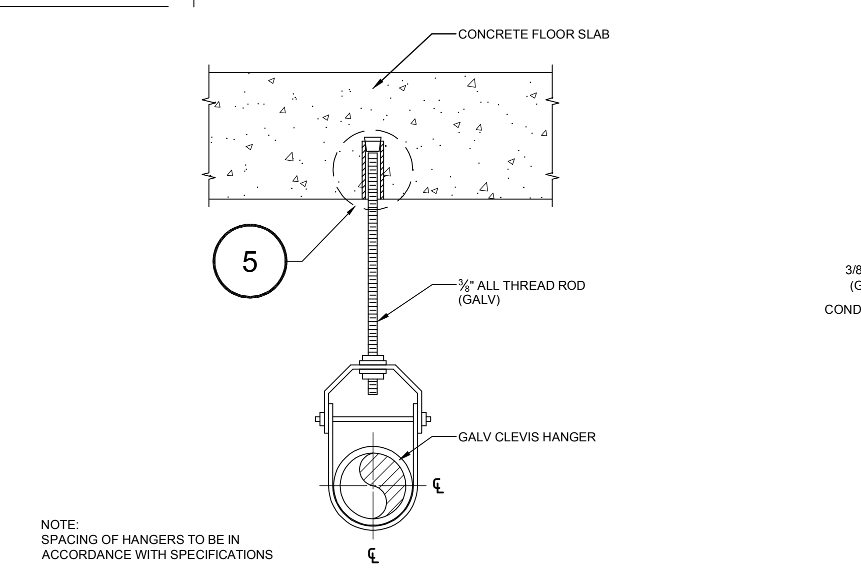
REMARKS:
1. PROVIDE FLEXABLE TUBING
2. GROUNDED HARDWIRE ELECTRICAL CONNECTION



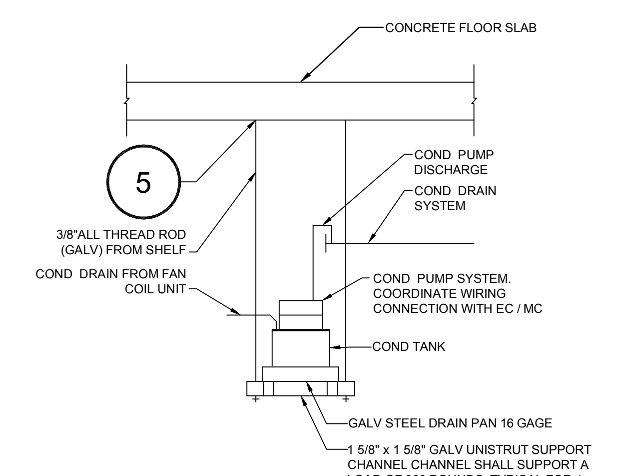
1 CONDENSATE DRAIN DETAIL
NOT TO SCALE



2 TRAP PRIMER FLOOR DRAIN DETAIL
NOT TO SCALE

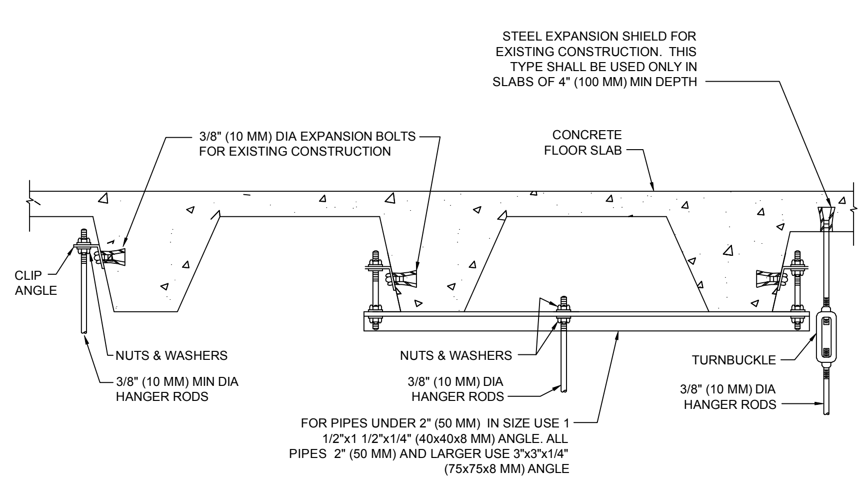


3 SELF DRILLING ANCHOR, ROD AND CLEVIS DETAIL
NOT TO SCALE



NOTES:
PROVIDE COND PUMP ONLY FOR FAN COIL UNITS THAT HAVE COND DRAIN CONNECTIONS LOWER THAN COND DRAIN SYSTEM AND REQUIRE A PUMP TO DRAIN PROPERLY.

4 CONDENSATE PUMP DETAIL
NOT TO SCALE



NOTES:
1. DRILLING OF ATTACHMENTS INTO BOTTOM OF BEAM OR SLAB SHALL NOT BE PERMITTED
2. EXPANSION BOLTS SHALL BE HILTI KWIK BOLT II EXPANSION ANCHOR, 3/8" DIA WITH 2 1/2" MIN EMBEDMENT, OR APPROVED EQUAL
3. SELECTED FRAMING ANGLES AND CLIP POSITIONS SUCH THAT LOAD ON EXPANSION ANCHOR DOES NOT EXCEED 500 LBS

5 TYP METHOD OF SECURING HANGER RODS IN CONCRETESLABS AND BEAMS
NOT TO SCALE

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

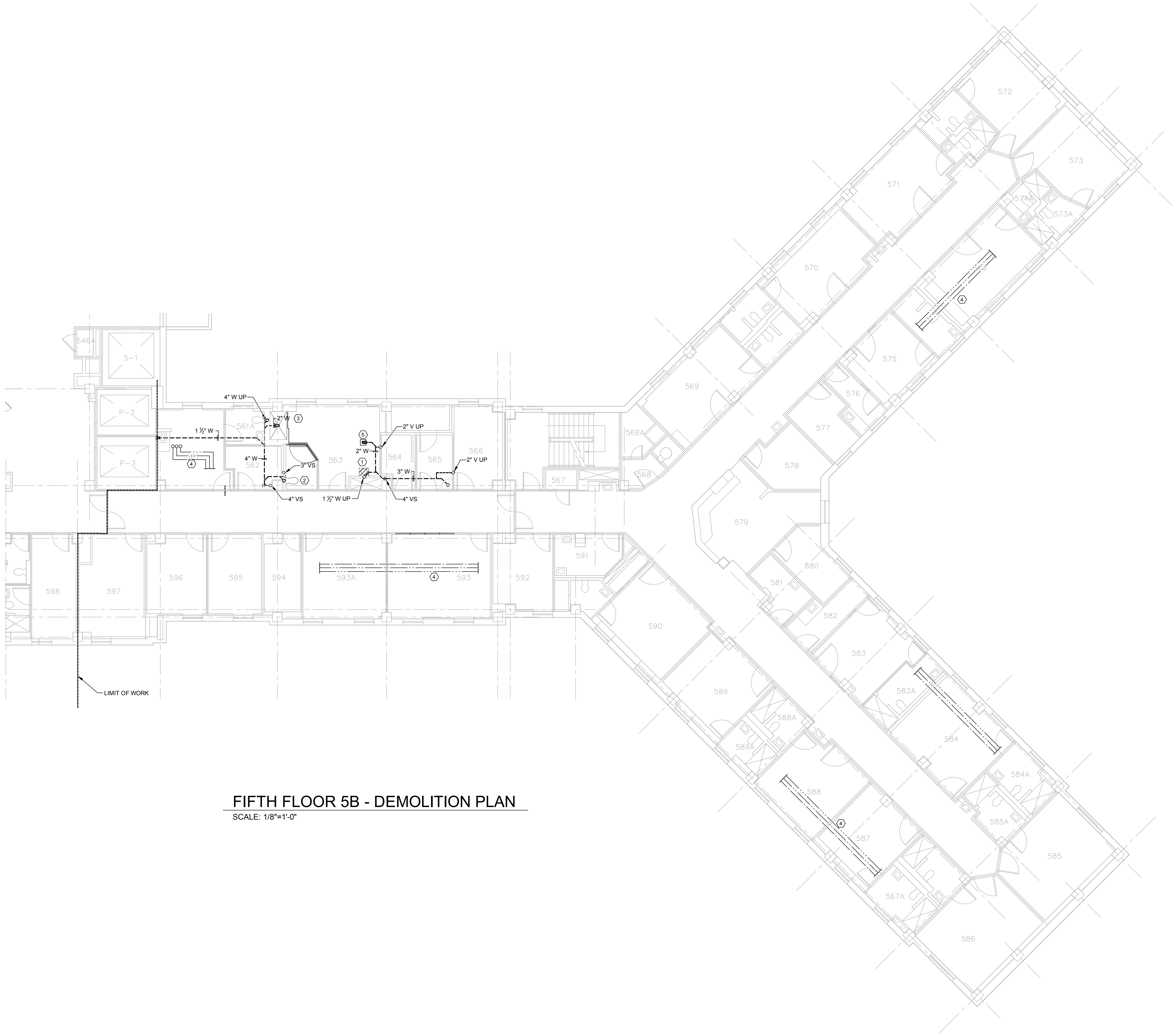
C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: JO		DATE: APRIL 30, 2009
DWN BY: MAC	CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: P-001.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

LEGENDS, GENERAL NOTES AND ABBREVIATIONS

SHEET IDENTIFICATION
P-001



FIFTH FLOOR 5B - DEMOLITION PLAN

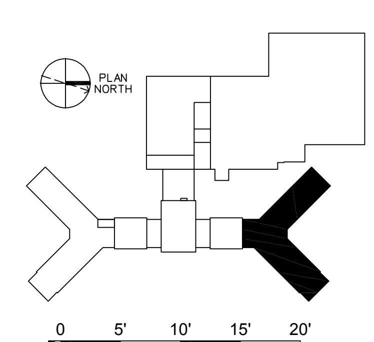
SCALE: 1/8"=1'-0"

KEY NOTES

1. REMOVE EXISTING SINK AND ASSOCIATED FIXTURES. CUT AND CAP W BELOW FLOOR AND V ABOVE CEILING.
2. REMOVE EXISTING TOILET AND ASSOCIATED FIXTURES. CUT AND CAP W BELOW FLOOR AND V ABOVE CEILING. CAP CW IN WALL FOR FUTURE HOSEBIB CONNECTION.
3. REMOVE EXISTING SHOWER STALL AND ASSOCIATED FIXTURES. CUT AND CAP HW / CW IN WALL. SHOWER W CONNECTION SHALL BE MAINTAINED FOR NEW FLOOR DRAIN.
4. EXISTING HW / CW / HRW PIPING TO BE RELOCATED AS NECESSARY TO ALLOW FOR INSTALLATION OF FAN COIL UNITS AND ASSOCIATED PIPING / DUCTWORK CONNECTIONS.
5. EXISTING FLOOR DRAIN TO REMAIN

NOTES

1. SEE SHEET P-001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: JO		DATE: APRIL 30, 2009
DWN BY: MAC	CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: PD-101.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

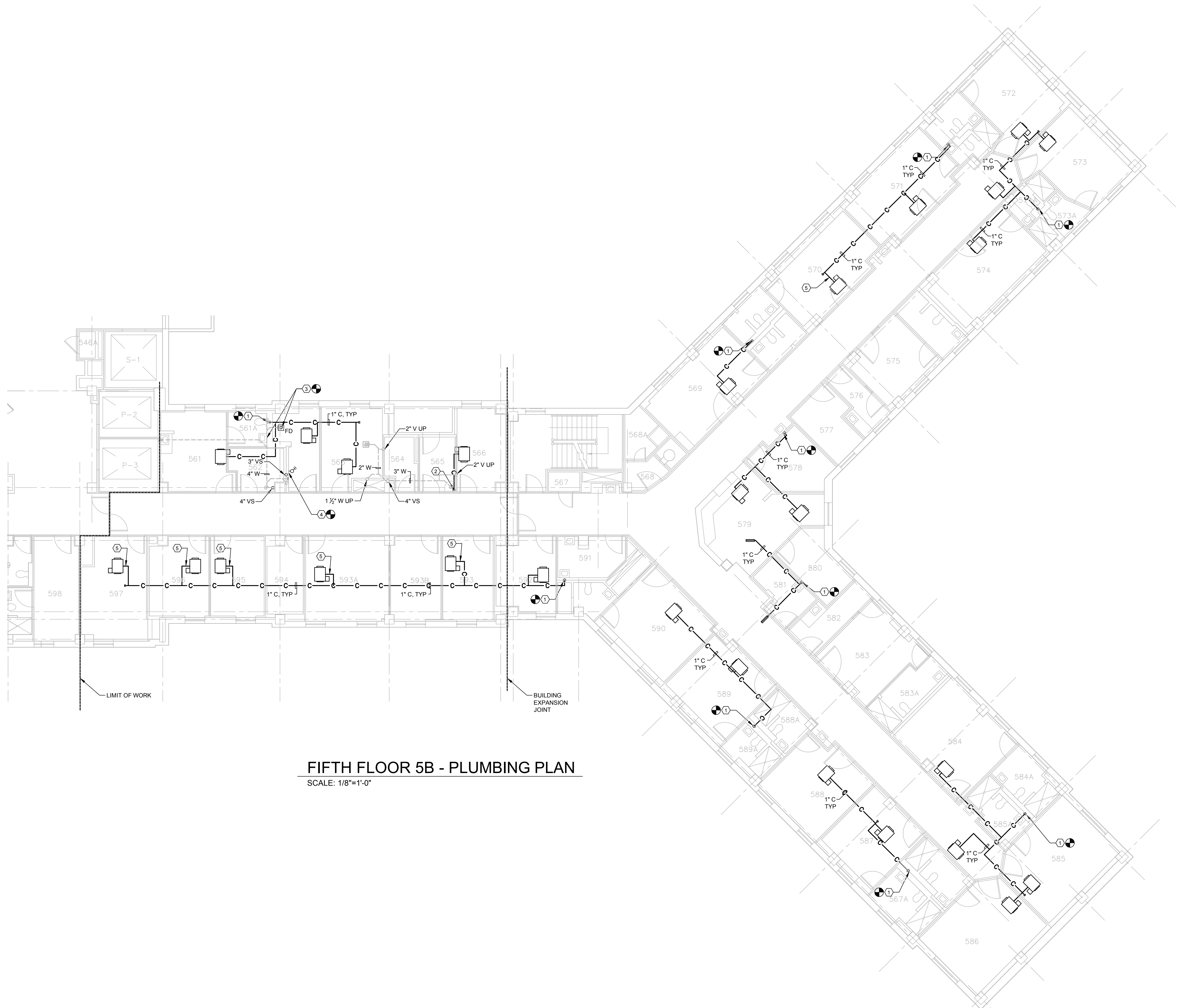
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

FIFTH FLOOR 5B -
DEMOLITION PLAN

SHEET IDENTIFICATION

PD-101

SHEET 25 OF 34



FIFTH FLOOR 5B - PLUMBING PLAN

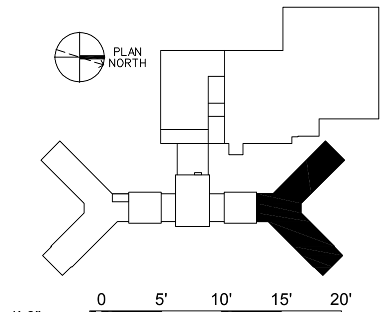
SCALE: 1/8"=1'-0"

KEY NOTES

1. INSTALL COND DRAIN TO EXISTING SANITARY IN WALL. SEE DETAIL #1 ON SHEET P-001.
2. TERMINATE COND DRAIN 6" ABOVE FLOOR SINK.
3. CONNECT NEW FD TO EXISTING W. INSTALL TRAP PRIMER FOR FD TO SINK ON OTHER SIDE OF WALL.
4. CONNECT NEW HOSE BIB WITH INTEGRAL VACUUM BREAKER TO EXISTING WATER SUPPLY IN WALL. HOSE BIB SHALL BE ZURN MODEL SERIES 1341 OR EQUIVALENT.
5. PROVIDE COND PUMP BECKETT MODEL CB251UL OR EQUIVALENT AS NECESSARY. SEE DETAIL ON P-001.

NOTES

1. SEE SHEET P-001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: JO		DATE: APRIL 30, 2009
DWN BY: MAC	CKD BY: ADA	SOLICITATION NO.: -
SUBMITTED BY: P. CHEN		VA PROJECT NO.: VA-650-07-115
FILE NAME: P-101.DWG		DRAWING CODE: -
SIZE: ANSI E	PLOT SCALE: AS NOTED	PLOT DATE: APRIL 30, 2009

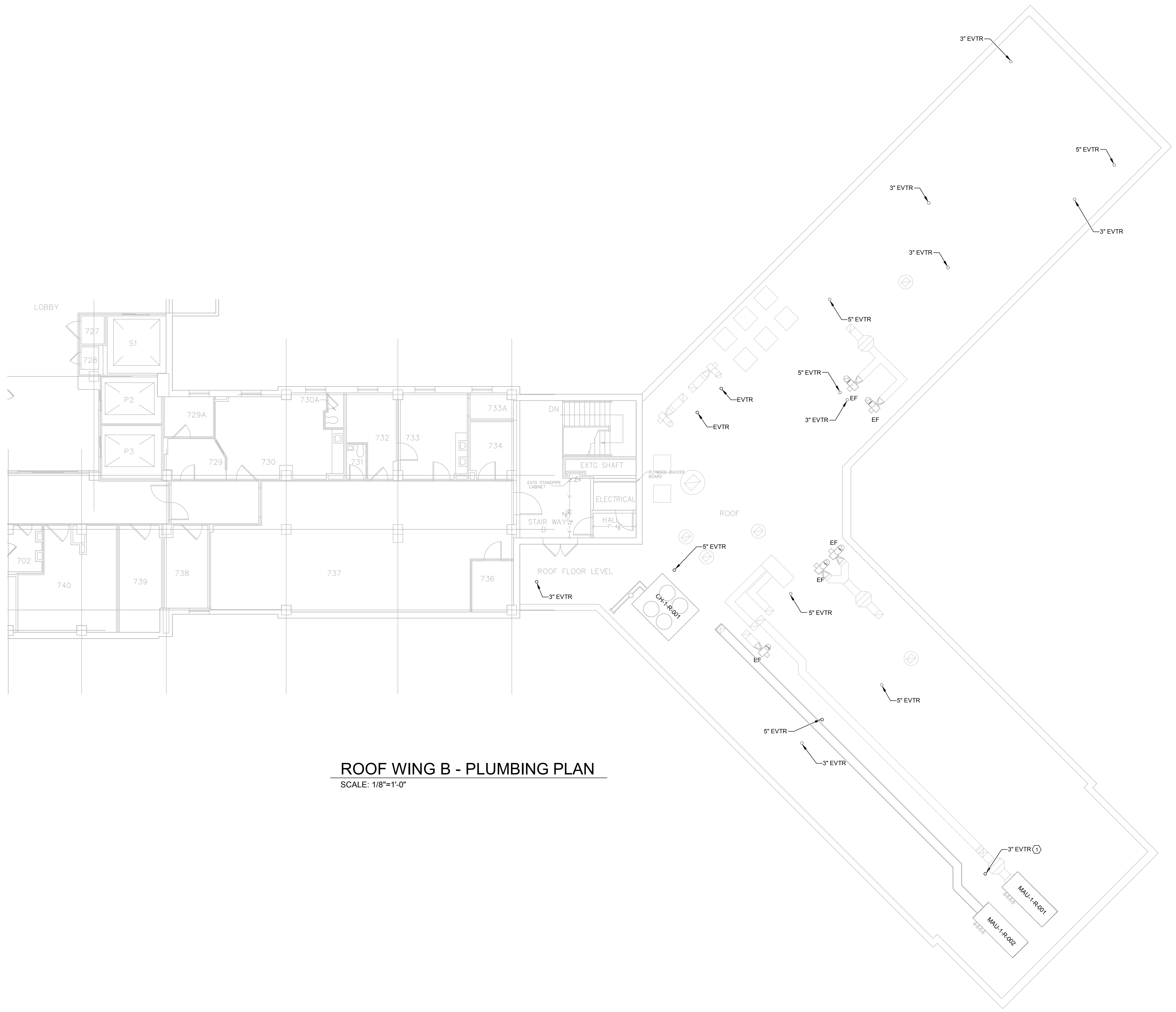
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

FIFTH FLOOR 5B - PLUMBING PLAN

SHEET IDENTIFICATION
P-101
SHEET 26 OF 34

KEY NOTES

(1) EXTEND VENT A MIN OF 3' ABOVE FRESH AIR INTAKES. COORDINATE WITH MC.

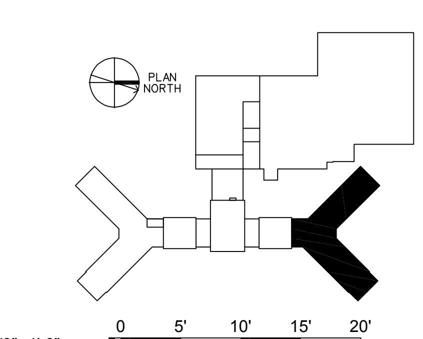


ROOF WING B - PLUMBING PLAN

SCALE: 1/8"=1'-0"

NOTES

1. SEE SHEET P-001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: JO
DWN BY: MAC
CKD BY: ADA
SUBMITTED BY: P. CHEN
FILE NAME: P-102.DWG
SIZE: ANSI E
PLOT SCALE: AS NOTED
DATE: APRIL 30, 2009
SOLICITATION NO.: -
VA PROJECT NO.: VA-650-07-115
DRAWING CODE: -
PLOT DATE: APRIL 30, 2009

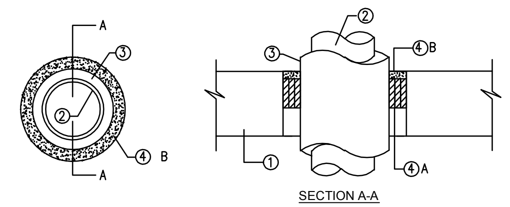
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

ROOF WING 5B -
PLIMBING PLAN

SHEET IDENTIFICATION
P-102
SHEET 27 OF 34

SLEEVE SCHEDULES BASED ON 3M SYSTEM # CAJ5002

PIPE	INS. THICK.	FIRE STOPPING MATERIAL	INSIDE SLEEVE DIAM. MIN.	MAX
6" STEEL (6.625" OD)	1 1/2	1/4" X 2" X 24"	10.125	+0.750 = 10.875
4" STEEL (4.500" OD)	1 1/2	1/4" X 2" X 24"	8.00	+0.750 = 8.750
3/4" COPPER (0.875" OD)	1 1/2	1/4" X 2" X 24"	4.375	+0.750 = 5.125
1" COPPER (1.125" OD)	1 1/2	1/4" X 2" X 24"	4.625	+0.750 = 5.375
1 1/4" COPPER (1.375" OD)	1 1/2	1/4" X 2" X 24"	4.875	+0.750 = 5.625
1 1/2" COPPER (1.625" OD)	1 1/2	1/4" X 2" X 24"	5.125	+0.750 = 5.875
2" COPPER (2.125" OD)	1 1/2	1/4" X 2" X 24"	5.625	+0.750 = 6.375
2 1/2" COPPER (2.625" OD)	1 1/2	1/4" X 2" X 24"	6.125	+0.750 = 6.875
3" COPPER (3.125" OD)	1 1/2	1/4" X 2" X 24"	6.625	+0.750 = 7.375
4" COPPER (4.125" OD)	1 1/2	1/4" X 2" X 24"	7.625	+0.750 = 8.375



SECTION A-A

1. FLOOR OR WALL ASSEMBLY - MIN. 2-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS.* MAX. DIAM OF OPENING IS 36 IN. 1A. STEEL SLEEVE-(NOT SHOWN)-NOM 36 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO MIN 4-1/2 IN THICK CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT MAX 2 IN FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL. WHEN STEEL SLEEVE IS USED, F RATING IS 2HR AND T RATING IS 0 HR.

2. NOM 4 IN DIAM(OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE, NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY.

3. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS:

A. A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. WIDE BY 24 IN. LONG STRIPS. NOM 2 IN. WIDE STRIPS TIGHTLY-WRAPPED AROUND PIPE COVERING (ROLL SIDE EXPOSED) TO FILL ANNULAR SPACE. EACH LAYER OF WRAP STRIP IS TO BE INSTALLED WITH A BUTTED SEAM, WITH THE BUTTED SEAMS IN SUCCESSIVE LAYERS STAGGERED. WRAP STRIP LAYERS SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLIDE INTO ANNULAR SPACE SUCH THAT THE TOP EDGES ARE RECESSED MIN. 1/2 IN FROM TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, THE WRAP STRIP LAYERS SHALL BE INSTALLED IN THE SAME MANNER USED FOR FLOOR ASSEMBLIES BUT SHALL BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL. THE MIN. NUMBER OF WRAP STRIP LAYERS REQUIRED IS DEPENDENT UPON THE MAX. PIPE SIZE AND THE PIPE COVERING THICKNESS, AS SHOWN IN THE FOLLOWING TABLE:

MIN. FLOOR OR WALL THKNS, IN	MAX PIPE DIAM IN	NOM PIPE COVERING THKNS, IN	ANNULAR SPACE	MIN NUMBER OF WRAP STRIP LAYER	F RATING HR.	T RATING HR.
2-1/2	6	1	1/4 TO 3/8	1	2	1
2-1/2	6	2	1/2 TO 5/8	2	2	1
2-1/2	12	1	1/4 TO 3/8	1	2	1/2
4-1/2	12	1	1/4 TO 3/8	1	2	1
4-1/2	12	2	1/4 TO 5/8	2	2	1
4-1/2	30	2	3/4 TO 1-1/4	3	2	1
4-1/2	20	3	1 TO 1-1/2	4	2	1

MINNESOTA MINING & MFG. CO. - TYPES , FS-195+

B. FILL, VOID OR CAVITY MATERIALS*- CAULK - APPLIED TO FILL THE ANNULAR SPACE (OVER EDGES OF WRAP STRIP LAYERS) TO A MIN. DEPTH OF OH IN., FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES OF WALL.

MINNESOTA MINING & MFG. CO. CP-25 WB+

* BEARING THE UL CLASSIFICATION MARKING

NOTE:
1. THIS FIRE STOPPING PENETRATION DETAIL IS APPLICABLE TO ALL FLOOR PENETRATION AS WELL AS ALL HORIZONTAL PENETRATION OF BUILDING ELEMENTS (WALLS,PARTITIONS,...)
2. MEA NUMBER 349-92-M

FIRE STOPPING - BASED ON 3M
SYSTEM No. CAJ5002 -F RATING - 2 HR.
N.T.S.

FIRE PROTECTION LEGEND

	FLOW DIRECTION
SP	WET SPRINKLER SYSTEM
D	DRAIN PIPING
FDC	FIRE DEPARTMENT CONNECTION
	EXISTING PIPING OR EQUIPMENT
	REMOVE EXISTING PIPING OR EQUIPMENT
	PIPE DOWN
	PIPE UP
	PIPE DROP
	CAPPED PIPE

LEGEND NOTE

THESE ARE THE GENERAL LEGENDS OF SYMBOLS AND ABBREVIATIONS, AND SHALL BE USED AS A DICTIONARY TO DEFINE ITEMS INDICATED ON DRAWINGS. NOT ALL SYMBOLS OR ABBREVIATIONS DEFINED ARE NECESSARILY USED ON THIS PROJECT.

FIRE PROTECTION SYMBOLS

	CONCEALED SPRINKLER
	PENDENT SPRINKLER
	UPRIGHT SPRINKLER
	WET SIDEWALL SPRINKLER
E	EXISTING SPRINKLER TO REMAIN
	EXISTING UPRIGHT SPRINKLER TO REMAIN
	EXISTING SIDEWALL SPRINKLER TO REMAIN
R	EXISTING SPRINKLER TO BE RELOCATED
	LOCATION OF RELOCATED SPRINKLER
	VALVE IN PIPE RISER
	OS&Y VALVE
	GATE VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE

FIRE PROTECTION ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
BOP	BOTTOM OF PIPE
CTE	CONNECT TO EXISTING
DN	DOWN
EL	ELEVATION
ETR	EXISTING TO REMAIN
EX	EXISTING
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FSP	FIRE STANDPIPE
G	CAGE GUARD
HD	HEAT DETECTOR
HT	HIGH TEMPERATURE
IT	INTERMEDIATE TEMPERATURE
NIC	NOT IN CONTRACT
PSI	POUNDS PER SQUARE INCH
RR	REMOVE & RELOCATE
SP	SPRINKLER
TYP	TYPICAL
VIF	VERIFY IN FIELD

FIRE PROTECTION GENERAL NOTES

THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:

A. THESE GENERAL NOTES ARE APPLICABLE TO ALL FIRE PROTECTION DRAWINGS.

B. DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL INTENT OF WORK. SEE DETAILS, RISERS, AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

C. THE DRAWINGS INDICATE A SUGGESTED SPRINKLER LAYOUT AND THAT EACH AREA IS COVERED BY SPRINKLER PROTECTION AS REQUIRED PER CODE. THE SPRINKLER QUANTITIES SHALL NOT BE COUNTED AS A TAKE OFF OR AS EXACT LOCATIONS. REFER TO NFPA STANDARDS FOR EXACT SPACING, DENSITY, AND LOCATION REQUIREMENTS.

D. SPRINKLERS IN FINISHED CEILING AREAS SHALL ALWAYS BE LOCATED IN THE CENTER OF CEILING TILES IN BOTH DIRECTIONS UNLESS INDICATED OTHERWISE.

E. REVIEW THE ARCHITECTURAL REFLECTED CEILING PLANS AS PART OF THIS CONTRACT FOR ADDITIONAL INFORMATION SUCH AS CEILING HEIGHTS, TYPES, SOFFITS AND OR OTHER DEVICE LOCATIONS.

F. REVIEW THE ELECTRICAL DIVISION DRAWINGS AND COORDINATE THE FIRE PROTECTION WORK WITH LOCATIONS OF LIGHTS, AND CEILING MOUNTED DEVICES WHICH MAY INTERFERE WITH SPRINKLER HEAD LOCATIONS OR SPRAY PATTERNS.

G. REVIEW THE HVAC DIVISION DRAWINGS AND COORDINATE THE FIRE PROTECTION WORK WITH LOCATIONS OF CEILING MOUNTED DEVICES SUCH AS DIFFUSERS, GRILLS, REGISTERS, LOCATIONS OF HEAT PRODUCING EQUIPMENT AND DUCTWORK REQUIRING SPRINKLER PROTECTION BELOW IT.

H. PROVIDE PIPE EXPANSION JOINTS AT ALL BUILDING EXPANSION JOINT LOCATIONS AND APPROVED SEISMIC EXPANSION LOOPS AT ALL BUILDING SEISMIC JOINT LOCATIONS AS REQUIRED PER NFPA STANDARDS AND BUILDING CODES. REVIEW ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR EXACT LOCATIONS OF EXPANSION AND SEISMIC JOINTS.

I. IN RENOVATION WORK, COORDINATE SYSTEMS SHUTDOWN WITH OWNER IN ORDER TO MAKE NEW PIPING CONNECTIONS. ALLOW MINIMUM OF TEN (10) DAYS ADVANCE NOTICE FOR OWNER APPROVAL TO PROCEED WITH CONTRACT WORK.

J. CONTRACTOR SHALL REFER TO CONSTRUCTION SEQUENCE AND SPECIFICATIONS FOR ALL CONSTRUCTION PHASING, STAGING AND INFECTIOUS CONTROL REQUIREMENTS.

FIRE PROTECTION DEMOLITION NOTES

THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR THE FOLLOWING:

A. VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING SYSTEMS AND CONDITIONS IN AREAS OF RENOVATION.

B. ALL EXISTING PIPING AND EQUIPMENT SHOWN HAS BEEN TAKEN FROM THE BEST AVAILABLE EXISTING INFORMATION. THE DRAWINGS ARE DIAGRAMMATIC AND ALL PIPING AND DEVICES MAY NOT BE SHOWN. THE INTENT OF THE DOCUMENTS IS THAT SYSTEM EQUIPMENT AND IPING IS TO BE RELOCATED IN ALL RENOVATED AREAS AS NOTED AND MAY NOT ALL BE SHOWN.

C. REMOVE AND RELOCATE FIRE PROTECTION SPRINKLERS INCLUDING BUT NOT LIMITED TO PIPING, SPRINKLER HANGERS, ND DEVICES AS SHOWN OR NOTED ON THE DRAWINGS. COORDINATE ALL WIRING WORK RELATED TO DEVICES BEING EMOVED WITH ELECTRICAL CONTRACTOR.

D. ALL PIPING TO BE REMOVED SHALL BE REMOVED COMPLETELY WITHOUT LEAVING ANY DEAD ENDED PIPING OR ABANDONED PIPING. SECURE IN PLACE.

E. NO FIRE PROTECTION EQUIPMENT OR DEVICES THAT HAVE BEEN DISCONNECTED OR ABANDONED SHALL REMAIN.

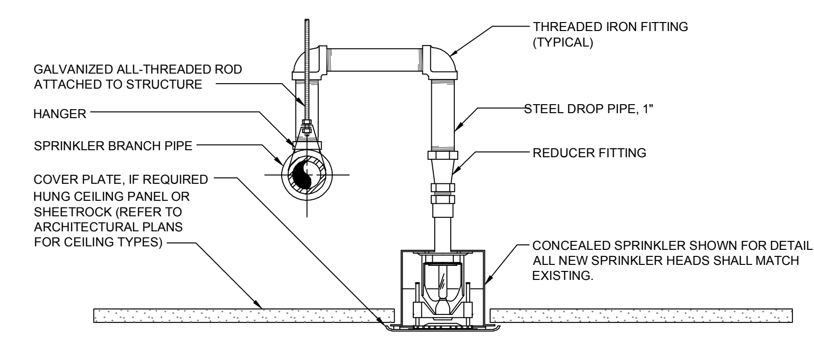
F. IT IS THE INTENT OF THESE DOCUMENTS THAT ANY AND ALL SPRINKLERS REMOVED SHALL BE REUSED, BUT ALL PIPING INSTALLED SHALL BE NEW.

G. ANY SYSTEM OR EQUIPMENT TO REMAIN ACTIVE DURING RENOVATION SHALL BE KEPT IN OPERATION BY PROVIDING TEMPORARY CONNECTIONS AS REQUIRED UNTIL NEW SYSTEMS ARE INSTALLED AND OPERATIONAL.

H. ALL SERVICE INTERRUPTIONS SHALL BE COORDINATED WITH THE OWNER PRIOR TO COMMENCEMENT OF ANY WORK.

I. THE FIRE MARSHAL AND/OR THE INSURANCE UNDERWRITER SHALL BE CONTACTED TO REVIEW AND APPROVE THE EXTENT OR PHASING OF THE FIRE PROTECTION DEMOLITION IN ORDER TO PROTECT THE OCCUPANTS AND PROPERTY. THESE DOCUMENTS DO NOT ADDRESS THE PHASING OF THE SYSTEM REMOVAL, ONLY THE EXTENT.

J. REVIEW THE ARCHITECTURAL DEMOLITION DRAWINGS AS PART OF THIS CONTRACT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



1 TYPICAL SPRINKLER DETAIL
NOT TO SCALE

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

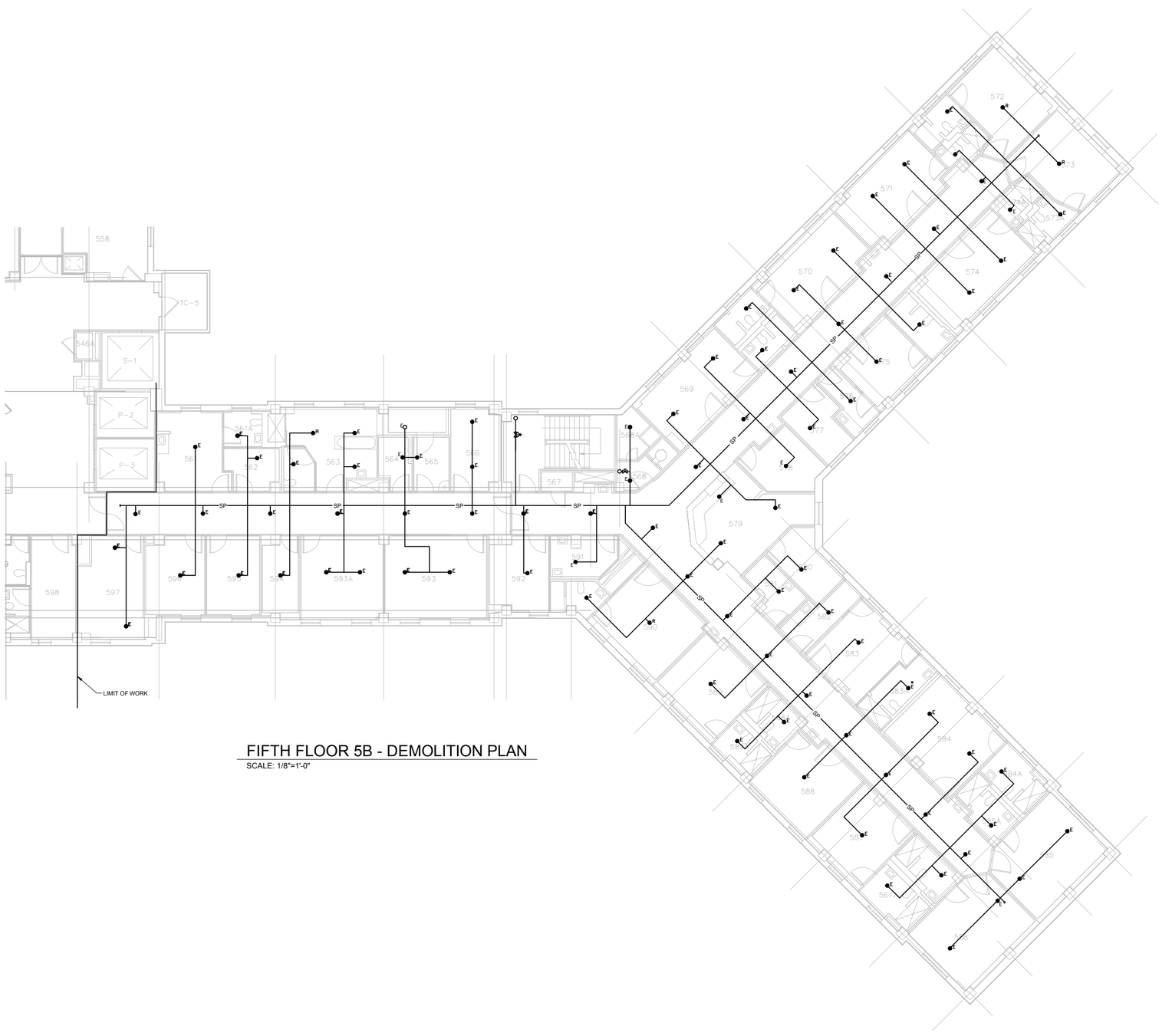
C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: JO | DWN BY: MAC | CKD BY: ADA | SUBMITTED BY: P. CHEN | FILE NAME: FP-001.DWG | SIZE: ANSI E | PLOT SCALE: AS NOTED | DATE: APRIL 30, 2009 | SOLICITATION NO.: - | VA PROJECT NO.: VA-650-07-115 | DRAWING CODE: - | PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

LEGENDS, GENERAL NOTES AND ABBREVIATIONS

SHEET IDENTIFICATION
FP-001
SHEET 28 OF 34

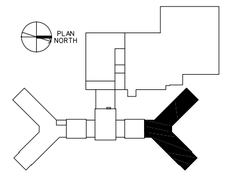


FIFTH FLOOR 5B - DEMOLITION PLAN

SCALE: 1/8"=1'-0"

NOTES

1. SEE SHEET FP-001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES.



1/8"=1'-0"

0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: JO	DATE: APRIL 30, 2009
DWN BY: MAS	CKD BY: MAS
SUBMITTED BY: P. CHEN	SOLICITATION NO.: -
FILE NAME: FD-101.DWG	VA PROJECT NO: VA-668-07-115
SIZE: ARCH D	PLOT SCALE: AS NOTED
	DRAWING CODE: -
	PLOT DATE: JUNE 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

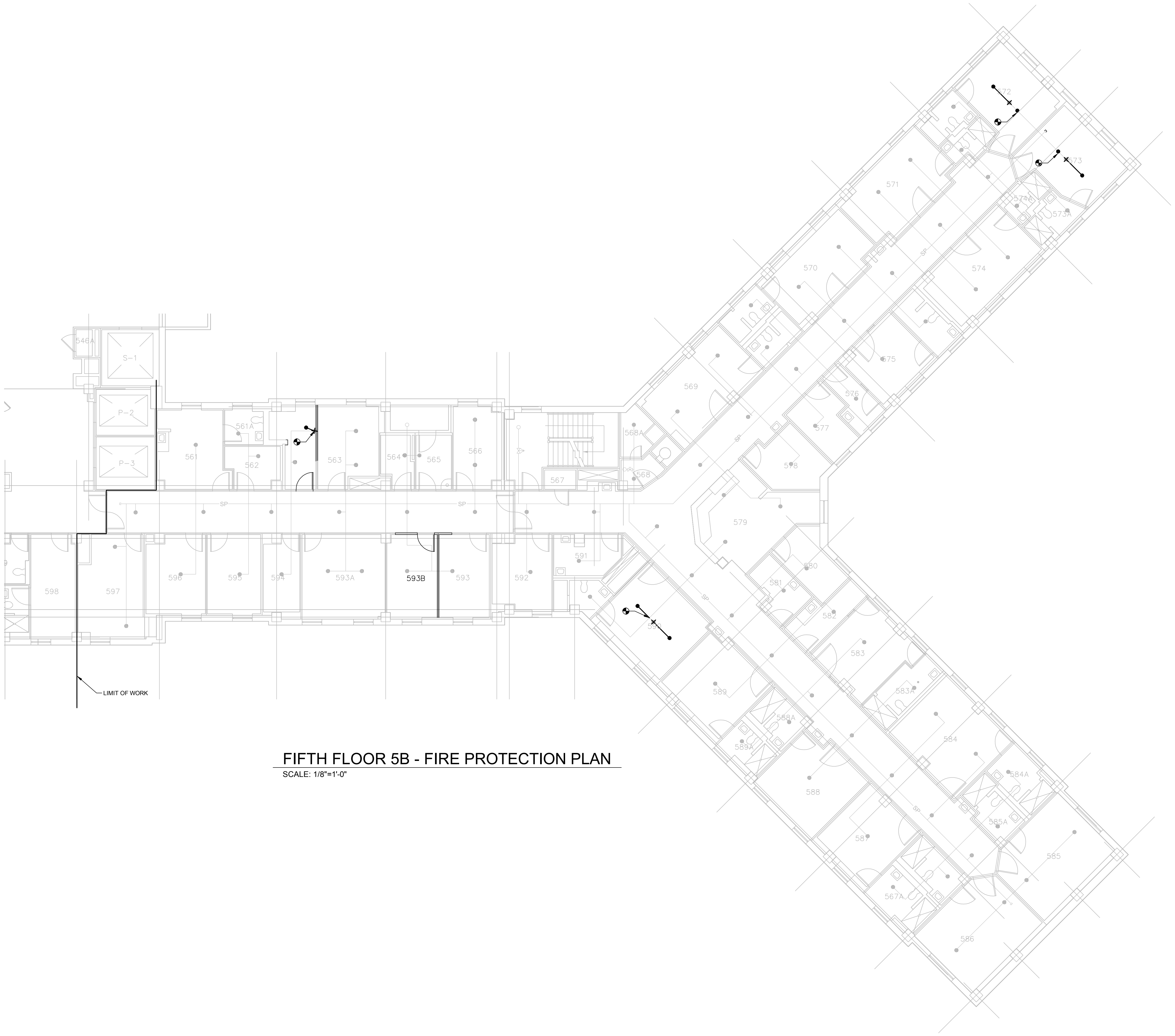
C & C Consulting Engineers, LLC
in association with
STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #9
REPAIR HVAC IN WARDS 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND
FIFTH FLOOR 5B
DEMOLITION PLAN

SHEET IDENTIFICATION
FD-101
SHEET 29 OF 34

1 2 3 4 5 6

E D C B A

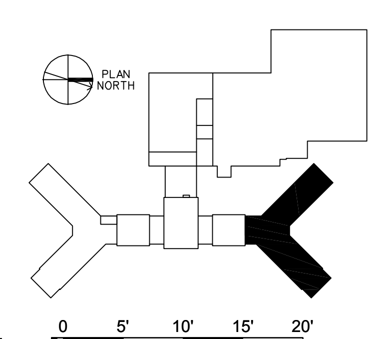


FIFTH FLOOR 5B - FIRE PROTECTION PLAN

SCALE: 1/8"=1'-0"

NOTES

1. SEE SHEET FP-001 FOR LEGEND, ABBREVIATIONS, AND GENERAL NOTES.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: JO
DWN BY: MAC
CKD BY: ADA
SUBMITTED BY: P. CHEN
FILE NAME: FP-101.DWG
SIZE: ANSI E
PLOT SCALE: AS NOTED
DATE: APRIL 30, 2009
SOLICITATION NO.: -
VA PROJECT NO.: VA-650-07-115
DRAWING CODE: -
PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

FIFTH FLOOR 5B -
FIRE PROTECTION PLAN

SHEET IDENTIFICATION

FP-101

LIGHTING FIXTURE SCHEDULE					
TYPE	DESCRIPTION	LAMPS	MANUFACTURER	CAT #	NOTES
A	DECORATIVE CHAIN HUNG	INCANDESCENT	EXISTING		
B	2'X4' RECESSED LENSED FLUORESCENT	32W T8	EXISTING		FIXTURE TO BE REMOVED
C	2'X2' RECESSED DROP LENSED FLUORESCENT	U17 T8	EXISTING		PROVIDE DIMMING BALLAST
D	6" RECESSED DOWNLIGHT	INCANDESCENT	EXISTING		
D1	8" RECESSED FLUORESCENT DOWNLIGHT	(2) CF26 3200°K	LITHONIA	AF 2/26DTT 8 AR 120 DMHL	
F	1'X4' WALL MOUNTED LENSED FLUORESCENT	32W T8	EXISTING		
G	WALMOUNTED DIRECTIONAL MINI FLOOD	INCADESCENT	EXISTING		

PANELBOARD: **KC** Existing — VOLTAGE RATING: 120/208V, 3 PHASE, 4 WIRE
LOCATION: Bldg 1 Floor 3 - Outside Chapel — MAIN BREAKER: 200A
BUS RATING: 225 A — MOUNTING: Recessed — IC:

BRK NO.	POLE	DESCRIPTION	A	B	C	BRK TRIP	# OF POLES	# OF POLES	BRK TRIP	A	B	C	DESCRIPTION	POLE	BRK NO.
1	1	Active Unkown				20	1	1	20				Active Unkown	2	2
3	3	Recept 347B, 347C				20	1	1	20				Recept 348A	4	4
5	5	Active Unkown				20	1	1	20				Active Unkown	6	6
7	7	Active Unkown				20	1	1	20				Active Unkown	8	8
9	9	Recept Chapel 348				20	1	1	20				Recept 349	10	10
11	11	Recept 347, Hall				20	1	1	20				Recept 354A	12	12
13	13	Spare				20	1	1	20				Spare	14	14
15	15	Recept 356				20	1	1	20				Active Unkown	16	16
17	17	Recept 357				20	1	1	20				Recept 354A	18	18
19	19	Active Unkown				20	1	1	20				Kitchen Coffee Vend	20	20
21	21	Kitchen Steamer				20	1	1	20				Recept 357	22	22
23	23	Kitchen Coffee Pot				20	1	1	20				Active Unkown	24	24
25	25	Hall Lights				20	1	1	20	1.00			**DIMMING PANEL**	26	26
27	27	Active Unkown				20	1	1	20		1.50		**UNIT VENTS (UV-1 & 2)**	28	28
29	29	Active Unkown				20	1	1	20			1.50	**UNIT VENTS (UV-3 & 4)**	30	30
31	31	Lighting				20	1	1	20				Lighting	32	32
33	33	Lighting				20	1	2					Spare	34	34
35	35	Active Unkown					2							36	
	37													38	
36	39	Active Unkown					2	3					Active Unkown	40	36
	41													42	
			0	0	0					1	1.5	1.5			

NOTES:
1 EXISTING PANELBOARD
2 NEW CIRCUIT BREAKERS PROVIDED SHALL MATCH EXISTING TYPE & RATING
3 BOLD CAPITAL LETTERING INDICATES NEW CIRCUIT

1 = PHASE A (KVA)
1.5 = PHASE B (KVA)
1.5 = PHASE C (KVA)
4 =TOTAL (KVA) NEW LOAD
11.111 =TOTAL (AMPS) NEW LOAD

PANELBOARD: **HDPB** NEW — VOLTAGE RATING: 277/480V, 3 PHASE, 4 WIRE
LOCATION: ROOF — MAIN BREAKER: 200A
BUS RATING: 225 A — MOUNTING: SURFACE — IC: 25k

BRK NO.	POLE	DESCRIPTION	A	B	C	BRK TRIP	# OF POLES	# OF POLES	BRK TRIP	A	B	C	DESCRIPTION	POLE	BRK NO.
	1		28.00											2	
1	3	CH-1-R-001 (CHILLER)		28.00		150	3	3	20					4	2
	5				28.00									6	
	7													8	
3	9					20	3	3	20				SPARE	10	4
	11													12	
	13		0.95							-				14	
5	15	MAU-1-R-002 (MAKE UP AIR 2HP)		0.95		20	3	3					SPARE	16	6
	17				0.95									18	
	19													20	
7	21	SPACE					3	3					SPACE	22	8
	23													24	
			28.95	28.95	28.95					0	0	0			

NOTES:
1 NEW PANELBOARD
2
3

28.95 = PHASE A (KVA)
28.95 = PHASE B (KVA)
28.95 = PHASE C (KVA)
86.85 =TOTAL (KVA)
104.64 =TOTAL (AMPS)

WIRING DEVICES

		RATED 20A, 125V, 2 POLE, 3 WIRE GROUNDING TYPE. SPECIFICATION GRADE "WP" DENOTES WEATHER-PROOF, "G" DENOTES GROUND FAULT.
WP 2	WALL DUPLEX CONVENIENCE RECEPTACLE	
	WALL SINGLE CONVENIENCE RECEPTACLE	# NUMBER INDICATES BRANCH CIRCUIT
	WIRING DEVICE GANGING SYMBOL	GANGING SYMBOL SHOWN IN CIRCUITRY RUN IN COMBINATION WITH ANY WIRING DEVICE SYMBOL THUS: S S S
	DOUBLE WALL DUPLEX CONVENIENCE RECEPTACLE	DENOTES WIRING DEVICE WHICH ARE TO BE GANGED IN A SINGLE COMMON PLATE OUTLET.
	FLUSH FLOOR DUPLEX OUTLET	
	MULTI OUTLET ASSEMBLY	MULTI CIRCUIT TYPE
	UNDERFLOOR DUCT WITH FLUSH FLOOR RECEPTACLE AND TELEPHONE OUTLETS	

CONDUCTORS AND CONDUITS

	CONDUIT RUN CONCEALED IN CEILING OR WALL	ARROW HEAD INDICATES HOME RUN TO PANELBOARD
	CONDUIT RUN CONCEALED IN OR UNDER THE FLOOR	CROSS MARKS INDICATE NUMBER OF #10 WIRES IN 3/4"C PLUS GROUND, GROUND WIRE NOT SHOWN, NO CROSS MARKER INDICATE 2 #10 PLUS GROUND IN 3/4"C GRS
	CONDUIT RUN EXPOSED	
	CONDUIT TURNING UP EXPOSED	HOME RUNS ARE INDICATED THUS: LL2-1,3,5
	CONDUIT TURNING DOWN	"LL2" DENOTES PANEL DESIGNATION "1,3,5" DENOTES CIRCUIT NO.S 1,3, AND 5 CONTAINING 20A. 1P. CB'S IN SAID PANELBOARD
EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL (GRS). EMT IS NOT ALLOWED. UNDERGROUND, ENCASED OR EMBEDDED CONDUIT SHALL BE FRE (FIBERGLASS), UNLESS SHOWN OTHERWISE. PVC IS NOT ALLOWED.		CONDUIT RUNS REQUIRING WIRE SIZE GREATER THAN #10 AND CONDUIT SIZE GREATER THAN 3/4" ARE GENERALLY NOTED THUS: 50A. 3P. 4#6, 1#10 GND 1-1/4"C

DISTRIBUTION (PLAN VIEW)

	PANELBOARD 277/480V PANELBOARD 120/208V	SEE PANELBOARD SCHEDULES
T TXA-1	TRANSFORMER	SEE TRANSFORMER SCHEDULE
TWM	TENANT WHM METER	

JUNCTION AND PULL BOXES

J	JUNCTION BOX OUTLET BOX TYPE WALL MOUNTED	SIZE AS REQUIRED
J	JUNCTION BOX OUTLET BOX TYPE MOUNTED AT CEILING	
PB	PULL BOX	
TB	TERMINAL BOARD	

MOTORS AND CONTROLS

M	MOTORS IN MECHANICAL SYSTEM EQUIPMENT	NUMBER INSIDE CIRCLE INDICATES HP RATING
100A/3	FUSED DISCONNECT SWITCH	SUBSCRIPTS INDICATE FUSE SIZE, SWITCH SIZE AND NO. OF POLES WP DENOTES WEATHERPROOF
	MAGNETIC MOTOR STARTER	SUBSCRIPTS INDICATE NEMA SIZE
S_T	MANUAL MOTOR SWITCH	PROVIDE WITH THERMAL OVERLOAD AND PILOT LIGHT. NUMERAL SUBSCRIPT DENOTES NUMBER OF POLES WHERE MORE THAN ONE.
S_{TD}	TOGGLE SWITCH WITH TIMER	TOILET EXHAUST FAN (FURNISHED BY OTHERS)
M	MOTORIZED DAMPER	
	DISCONNECT SWITCH (UNFUSED)	EXHAUST
PM	ELEV POWER MODULE W/ SHUNT TRIP	
	COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH	
HOA	HAND-OFF-AUTO CONTROL SWITCH	

LIGHTING

A 4a	LIGHTING FIXTURES	"A" INDICATES TYPE. "4" INDICATES CIRCUIT NUMBER AND "a" INDICATES SWITCH CONTROL.
$a	SINGLE POLE SWITCH	"a" INDICATES SWITCH CONTROL.
$3a	THREE WAY SWITCH	"a" INDICATES SWITCH CONTROL
DCS	DIMMING CONTROL STATION	REFER TO DIMMING SYSTEM DETAILS.
DWS	DIMMING WALL STATION	
	EMERGENCY LIGHT FIXTURE	FIXTURE PROVIDED WITH EMERGENCY BALLAST. REFER TO FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION. PROVIDE ADDITIONAL WIRING AS REQUIRED TO MAINTAIN DESIRED SWITCH CONTROL. REFER TO FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

DEMOLITION LEGEND

	EXISTING EQUIPMENT OR SYSTEM TO REMAIN
TBR	EXISTING EQUIPMENT TO BE RELOCATED. ARROW INDICATES GENERAL ARE FOR RELOCATION. REFER TO POWER PLANS FOR ACTUAL LOCATION. ALL CONDUIT AND CONDUCTORS SHALL BE EXTENDED TO NEW LOCATION.
	EXISTING EQUIPMENT AND ASSOCIATED CIRCUITRY TO BE DEMOLISHED AND REMOVED

TELEPHONE, DATA SYSTEM

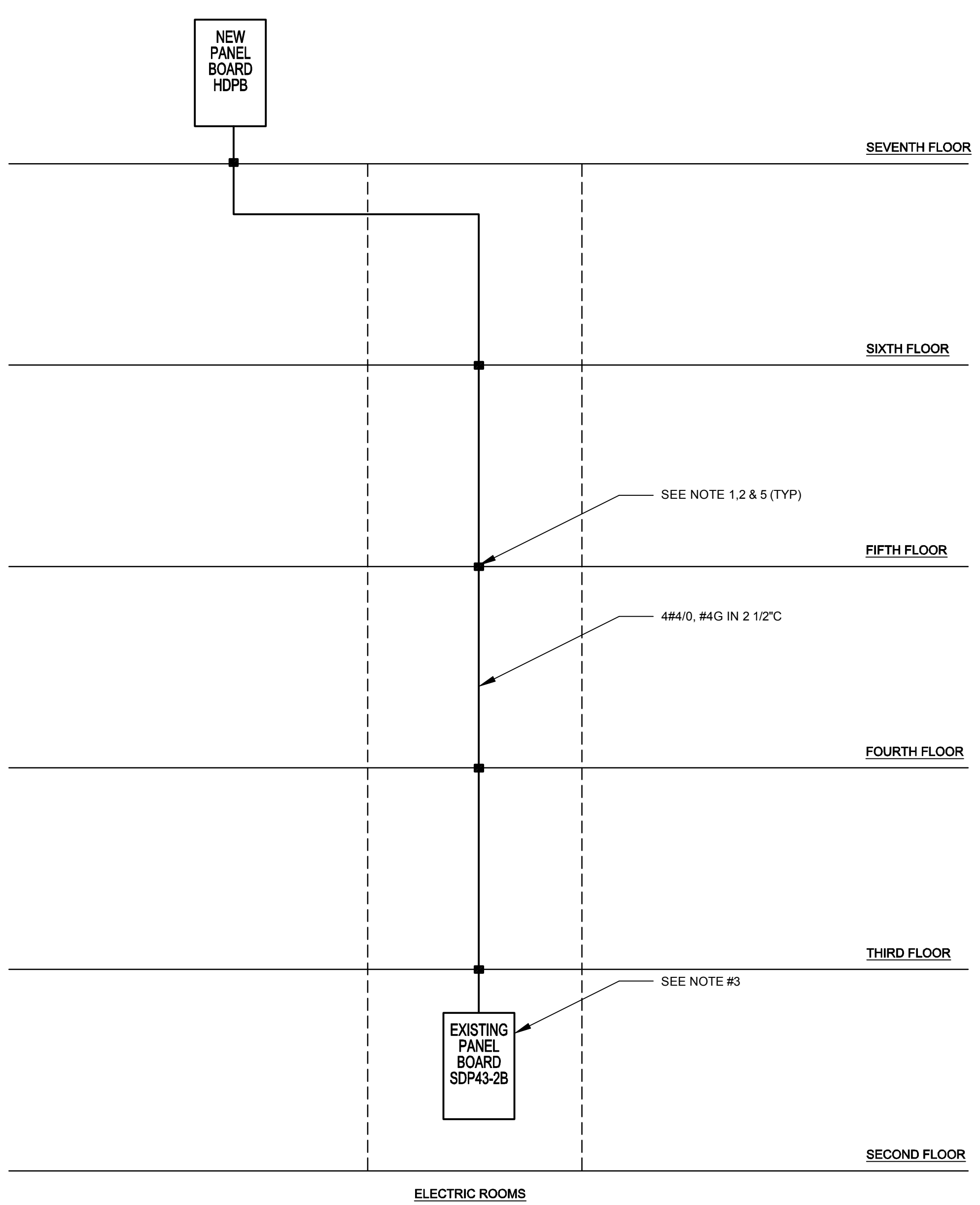
▼	DATA OUTLET	DATA CONNECTION FOR MECHANICAL METASYS SYSTEM: 1. PROVIDE RJ45 OUTLET AND CAT 6 IN 3/4" CONDUIT CABLE TO COMMUNICATIONS ROOMS SHOWN ON THE THIRD AND FIFTH FLOORS. COORDINATE ALL WORK WITH PROVIDENCE VMAC INFORMATION TECHNOLOGY DEPARTMENT

ABBREVIATIONS

A/AMP	AMPERE, AMMETER
A/C	AIR CONDITIONING, AIR CONDITIONER
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
ATS	AUTOMATIC TRANSFER SWITCH
AT	AMPERE TRIP
AWG	AMERICAN WIRE GAGE
BAT	BATTERY
C	CONDUIT
CU	COPPER
DISC	DISCONNECT
DWG	DRAWING
ELEC	ELECTRIC
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
G	GROUND WIRE
CFCI	GROUND FAULT CIRCUIT INTERRUPTOR
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HH	HAND HOLE
INTLK	INTERLOCK
JB	JUNCTION BOX
KCMIL	ONE THOUSAND CIRCULAR MIL
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWH	KILOWATT HOURS

GENERAL NOTES:

1. CONTRACTOR SHALL NOT UNDER ANY CIRCUMSTANCES CORE OR NOTCH CONCRETE BEAMS OR RIBS OF SLAB SYSTEMS.
2. ALL FRACTIONAL HORSEPOWER MOTORS SHALL BE PROTECTED BY A 20 AMP, SINGLE POLE, 125 VOLT THERMAL SWITCH.
3. HOMERUNS OF ALL 120 VOLT CIRCUITS OVER 70 FEET IN LENGTH SHALL BE MINIMUM #10 AWG WIRE.

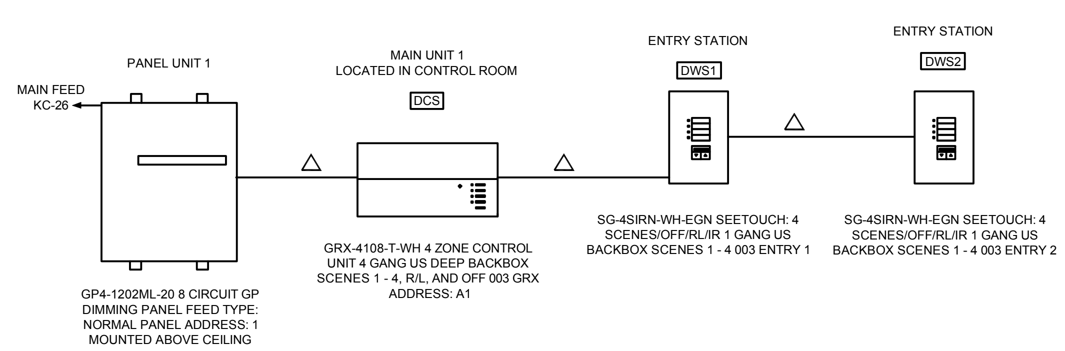


NOTES:

1. CONTRACTOR SHALL CORE DRILL HOLES AS REQUIRED FOR ROUTING OF NEW BRANCH FEEDER FROM EXISTING SECOND FLOOR 480/277V PANEL UP TO NEW PANEL ON SEVENTH FLOOR. EXACT CONDUIT ROUTING SHALL BE COORDINATED IN FIELD. SEE NOTE 5.
2. ELECTRICAL CONTRACTOR SHALL FIREPROOF AND SEAL EACH WALL AND FLOOR PENETRATION.
3. ELECTRICAL CONTRACTOR SHALL INSTALL A NEW 480V, 225A, 3 POLE, 25kAIC CIRCUIT BREAKER IN EXISTING SECOND FLOOR PANEL **SDP-43-2B**.
4. REFER TO PANELBOARD SCHEDULE FOR ADDITIONAL INFORMATION ON PANELBOARD **HDPB.**
5. WHEN ROUTING FEEDER, AVOID DRILLING OR NOTCH OF RIBS FOR FLOORS 2 THROUGH 6. FEEDERS SHALL AVOID DIAGONAL ROOF BEAM LAYOUT IN THIS AREA AND ALSO AVOID RIBS. CONTRACTOR SHALL NOT CORE OR NOTCH CONCRETE BEAMS OR RIBS OF SLAB SYSTEMS WHEN ROUTING CONDUIT.

ONE-LINE DIAGRAM

NTS



NOTES:

1. PROVIDE A 4 ZONE DIMMING CONTROL SYSTEM

   PERFORMANCE:
   - DIMMING PANELS CAPABLE OF MOUNTING ABOVE ACCESSIBLE CEILING WITH NO MOTORIZED FANS, COOLING SHALL BE ACHIEVED THROUGH HEAT SINKS.
   - CONTROL UNIT FOR MASTER CONTROL LOCATED ADJACENT TO ALTAR.
   - WALL STATIONS WITH 5 BUTTON OPERATION AND PRESET SCENE CAPABILITIES LOCATED AT EACH END OF THE CHAPEL.
   - DIMMING PANELS SHALL BE PROVIDED WITH NECESSARY ACCESSORIES TO ALLOW FOR EMERGENCY LIGHTS TO OPERATE IN THE EVENT OF A POWER OUTAGE.
2. MANUFACTURER: LUTRON GRAFIK EYE 4000 OR EQUAL. CAT NUMBERS SHOWN ARE LUTRON.
3. NOT USED.

△ LUTRON CABLE GRX-CBL-46L (2 #12AWG (2.5MM2), 1#18AWG (1.0MM2), 1 TWISTED PAIR) FOR 4000 SYSTEMS. TWISTED PAIR AVAILABLE AS BELDEN #9461

DIMMING SYSTEM DIAGRAM

NTS

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

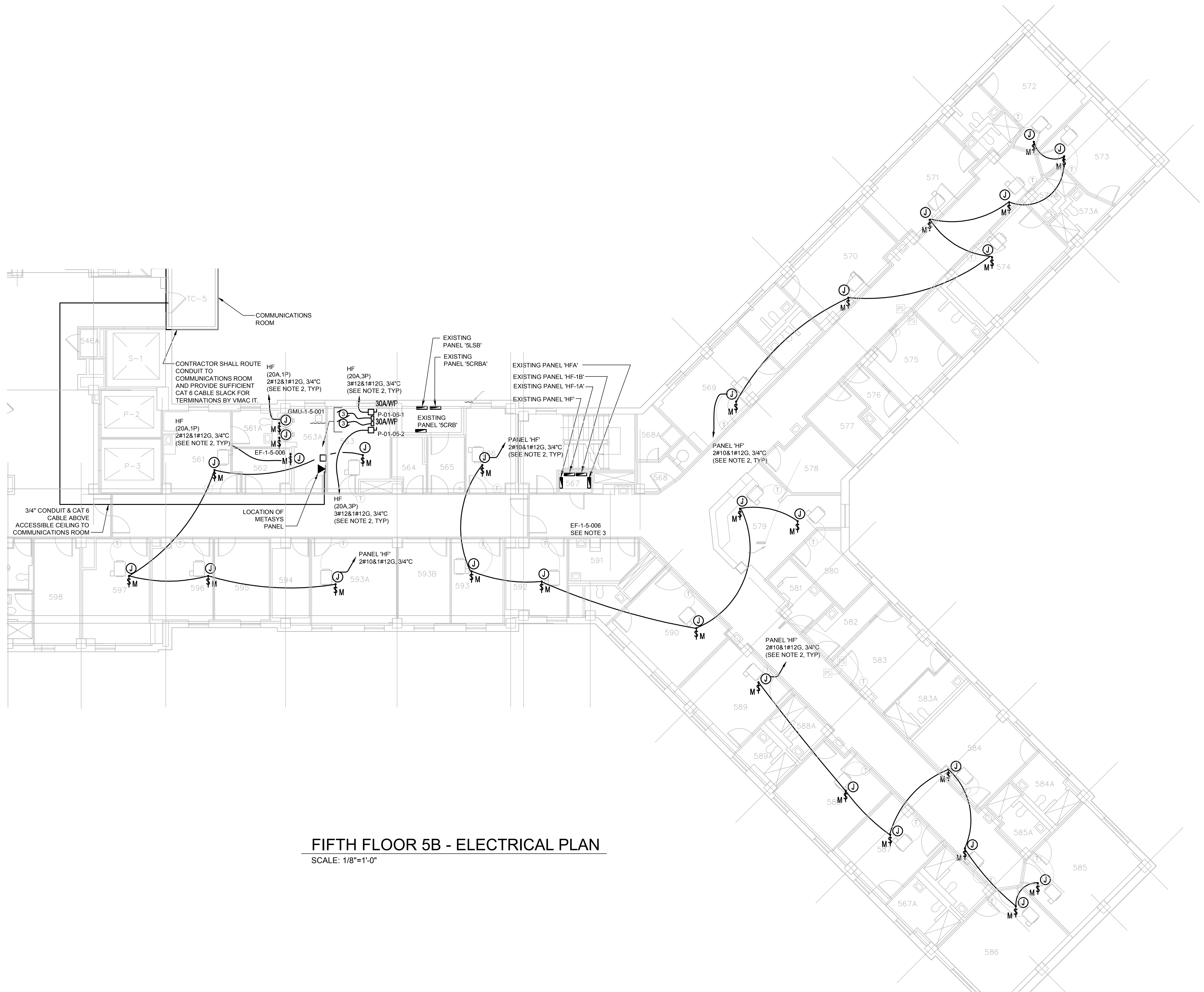
C & C Consulting Engineers, LLC
in association with
STV Incorporated

DESIGNED BY: CM | DWN BY: CM | CKD BY: MC | SUBMITTED BY: P. CHEN | FILE NAME: E-001.DWG | SIZE: ANSI E | PLOT SCALE: AS NOTED | DATE: APRIL 30, 2009 | SOLICITATION NO.: - | VA PROJECT NO.: VA-650-07-115 | DRAWING CODE: - | PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

LEGENDS, GENERAL NOTES AND ABBREVIATIONS

SHEET IDENTIFICATION
E-001
SHEET 31 OF 34

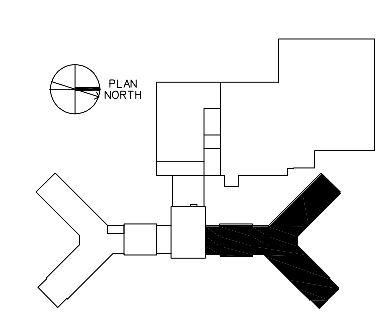


FIFTH FLOOR 5B - ELECTRICAL PLAN

SCALE: 1/8"=1'-0"

NOTES:

1. VFD STARTERS SUPPLIED BY MECHANICAL CONTRACTOR INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
2. ELECTRICAL CONTRACTOR SHALL INSTALL NEW CIRCUIT BREAKERS (7) 20A, 1P AND (2) 20A, 3P IN EXISTING PANEL "HF" SPACES.
3. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING EQUIPMENT TO BE REMOVED AND SAVE CIRCUIT TO BE RECONNECTED TO NEW EQUIPMENT BEING INSTALLED AT SAME LOCATION.



1/8"=1'-0"

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR.

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC in association with STV Incorporated

DESIGNED BY: CM | DWN BY: CM | CKD BY: MC | SUBMITTED BY: P. CHEN | FILE NAME: E-101.DWG | SIZE: ANSI E | PLOT SCALE: AS NOTED

DATE: APRIL 30, 2009 | SOLICITATION NO.: - | VA PROJECT NO.: VA-650-07-115 | DRAWING CODE: - | PLOT DATE: APRIL 30, 2009

VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC IN WARD 5B AND CHAPEL
PROVIDENCE, RHODE ISLAND

FIFTH FLOOR 5B - ELECTRICAL PLAN

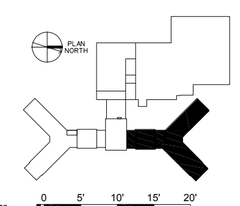
SHEET IDENTIFICATION
E-101

ROOF WING B - ELECTRICAL PLAN

SCALE: 1/8"=1'-0"

NOTES

1. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING EQUIPMENT TO BE REMOVED AND SAVE CIRCUIT TO BE RECONNECTED TO NEW EQUIPMENT BEING INSTALLED AT SAME LOCATION.
2. NEW CHILLER AND MAU-1-R-002 SUPPLIED WITH INTEGRAL DISCONNECT SWITCHES.
3. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING AIR HANDLER TO BE REMOVED AND SAVE CIRCUIT TO BE RECONNECTED TO NEW EQUIPMENT (MAU-1-R-001) BEING INSTALLED AT SIMILAR LOCATION. EXTEND EXISTING CIRCUITRY AS NECESSARY.



1/8"=1'-0"

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

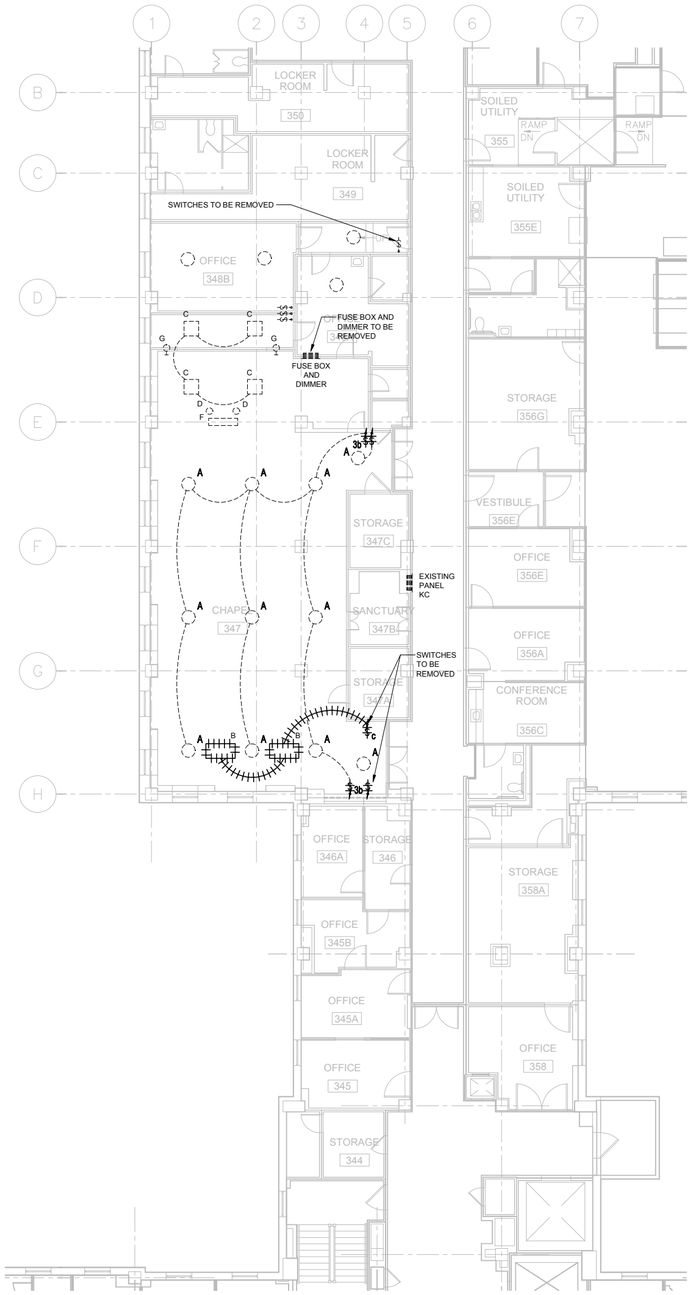
DESIGNED BY: CM
DRAWN BY: CM
CHECKED BY: P. CHEN
FILE NAME: E-102.DWG
SIZE: ARCH D
QAD BY: MC
SUBMITTED BY:
DATE: APRIL 30, 2009
SOLICITATION NO.:
VA PROJECT NO.: VA-459-07-116
DRAWING CODE: -
PLOT SCALE: 1/8" = 1'-0"
PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC
in association with
STV Incorporated

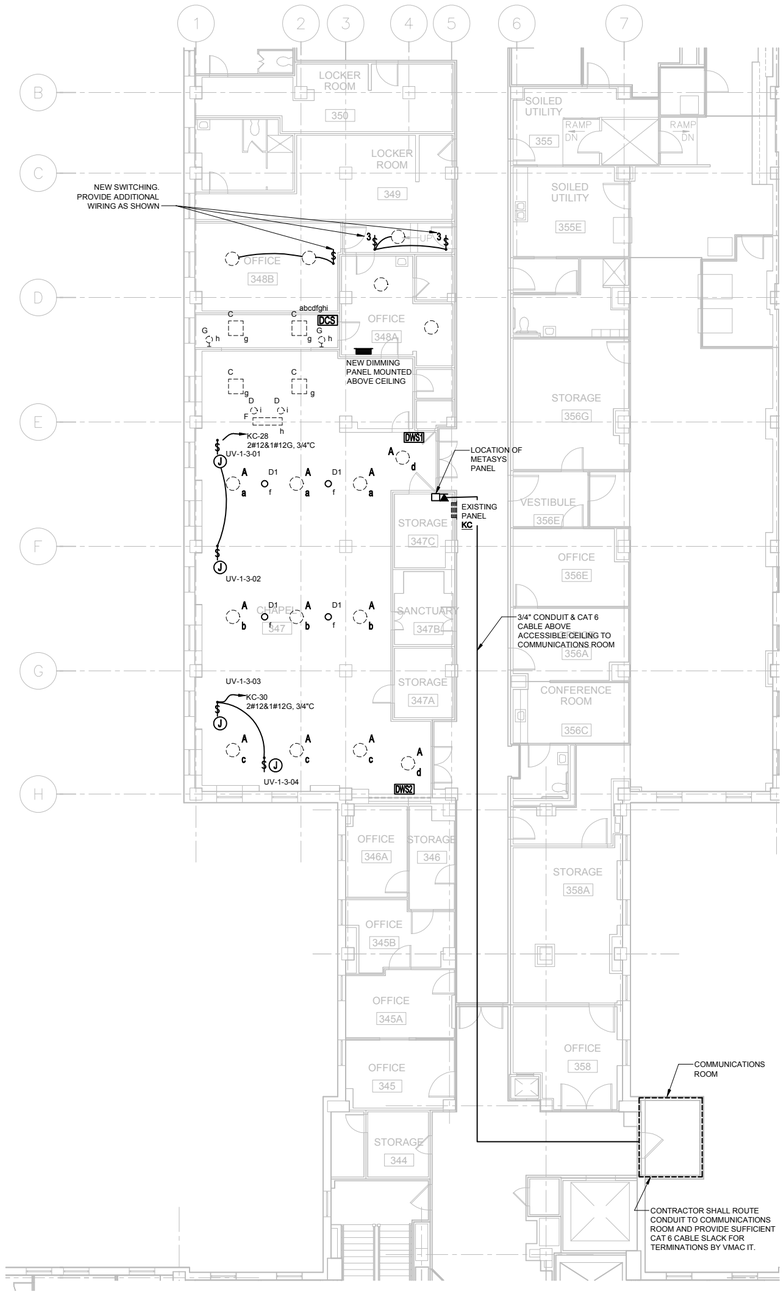
VETERANS AFFAIRS MEDICAL CENTER
BUILDING #1
REPAIR HVAC UNITS #3 AND CHAPEL
PROVIDENCE, RHODE ISLAND
ROOF WING B
ELECTRICAL PLAN

SHEET IDENTIFICATION
E-102
SHEET 33 OF 34



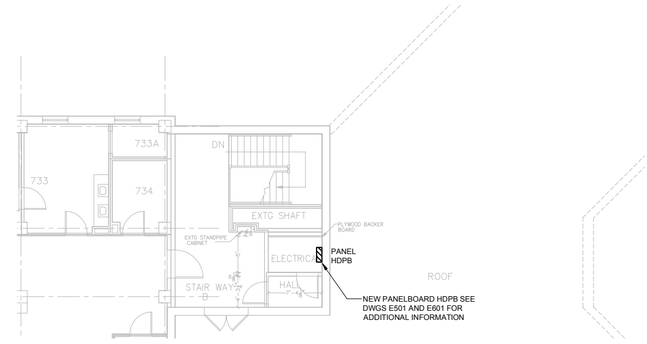
CHAPEL 3C - EXISTING LIGHTING PLAN

SCALE: 1/8"=1'-0"



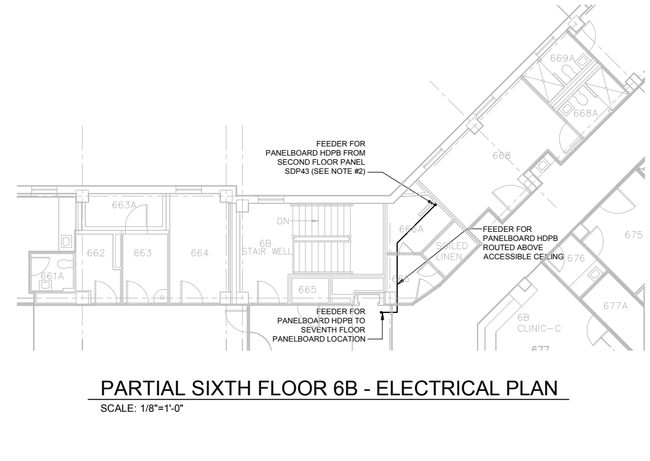
CHAPEL 3C - NEW LIGHTING PLAN

SCALE: 1/8"=1'-0"



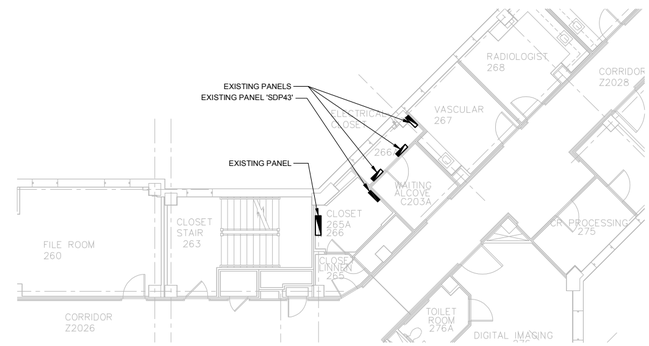
PARTIAL ROOF WING B - ELECTRICAL PLAN

SCALE: 1/8"=1'-0"



PARTIAL SIXTH FLOOR 6B - ELECTRICAL PLAN

SCALE: 1/8"=1'-0"

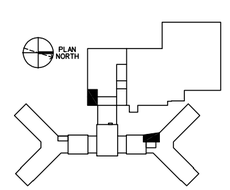


PARTIAL SECOND FLOOR 2B - ELECTRICAL PLAN

SCALE: 1/8"=1'-0"

NOTES:

1. REFER TO DWGS E501 AND E601 FOR ADDITIONAL INFORMATION.
2. ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT ROUTING OF CONDUIT WITH EQUIPMENT OF OTHER TRADES IN THE FIELD.



1/8"=1'-0" 0 5' 10' 15' 20'

US ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT

DEPARTMENT OF VETERANS AFFAIRS

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: CM
DRAWN BY: DM, MC
QID BY: MC
SUBMITTED BY: P. CHEN
FILE NAME: E-401.DWG
SIZE: ANSI D
PLOT SCALE: AS NOTED
DATE: APRIL 30, 2009
SOLICITATION NO.:
VA PROJECT NO.: VA-460-01-115
DRAWING CODE:
PLOT DATE: APRIL 30, 2009

US ARMY ENGINEER DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS

C & C Consulting Engineers, LLC in association with STV Incorporated

VETERANS AFFAIRS MEDICAL CENTER BUILDING #1
REPAIR HVAC, MAIN AND CHAPEL
PROVIDENCE, RHODE ISLAND

SECOND FLOOR 2B, THIRD FLOOR 3C, SIXTH FLOOR 6B AND ROOF WING B LIGHTING AND ELECTRICAL PLANS

SHEET IDENTIFICATION
E-401
SHEET 34 OF 34